The Builder.

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Architectural Drawings at the Paris Exhibitions.

IT is one of the curious contrasts between the representation of architecture at the Salon and representation of architecture at the Royal Academy, that in the latter case the drawings are mainly those of buildings which are carried out, or to be carried out, while at the Salon the executed buildings are in so small a minority as hardly to form any important element in the collection, which represents not what the architects have carried out so much as what they would like to carry out. The Salon collection of architectural drawings may represent the prevalent taste of the French architect, but it does not represent at all the average practical progress of French architecture. The great majority of the designs are what are called *projets*: the exhibition does not in the least represent actual contemporary French architecture; far less so than the Academy represents contemporary English architecture. In the present year, too, there is a larger proportion than usual of drawings and sketches of ancient work.

There is generally one architectural model to be seen; the Salon, like the Academy, never seems to get beyond one. This year it is the plaster model of the design made by M. Sortais (architect) in collaboration with M. Desvergnes (sculptor) for a monument to President Carnot proposed to be erected at Lyons. There is a good deal of merit and originality in this. The design has a wide-spreading architectural base, run out at the four angles into accentuated features with pedestals; above the base is a solid mass, a kind of altar, with bas-reliefs on the larger sides, and a recumbent figure of Carnot on the top, over which is an angel bending and placing a wreath on his head. This is rather too heroic for the occasion; for poor M. Carnot, who during his lifetime was known as an amiable and excellent gentleman and a highly respectable head of the State, was raised by his tragical death to a position of importance in the public estimation which his uneventful life would certainly not have justified. However, the monument is a good one in itself; and the subsidiary sculpture is exceedingly well placed. On the long side the base line is broken at one side by a group of two seated figures, one weeping on the shoulder of the other, and on the other side by a tablet of inscriptions and trophies; at the two ends sculptured figures are introduced, but at a higher level in the design, and on pedestals formed by semicircular projections carried through the base and up to the foot of the "altar" mass. This placing of the subsidiary sculpture on different levels at the sides and ends of the composition has a remarkably good effect, it gives both balance and variety of line, and is a point which young designers should note.

M. Sortais is also the author of the principal set of archæological drawings of the year, which are, however, by no means so remarkable as some which have been seen in previous exhibitions. This is a set of drawings of the actual state and the restoration of Hadrian's villa at Canopus, of which it may be said that the "actual state," as figured by the architect, gives only the barest dry bones, the merest core for a restoration, and all that can be said of the drawings is that they are very highly-finished and very much in keeping with Roman work and Roman taste; that some such erection might have been there, and that its "practicable" openings correspond with the practicable openings left in the rough core of masonry which is all that is left to go by. In a corner of one of the rooms is a small space curtained off at the sides and top for showing M. Boussac's reduced drawings of the wall-painting and ceiling-decorations of a Theban tomb of the XVIIIth dynasty. This has been well and carefully carried out; the interest of the walls is almost in the figure-paintings. At the top we are struck by the simple and yet effective character of the roof decoration, the centre portion of which is painted in strong zigzags of red, blue, and white in succession. The end portions show ceiling ornament of a rather more elaborate kind.

The architectural exhibits at the Salon usually afford some indication of the recent line of studies for the prizes at École des Beaux-Arts, in the shape of highly elaborated drawings for some very costly form of ideal design such as no one unfortunately would think of carrying out in these days; we say unfortunately, for it would certainly be for the advantage of architecture as well as of architects if there were occasionally chances of carrying out purely ideal designs on a large scale, though we might not wish them to be exactly on the École des Beaux-Arts model. The most conspicuous and numerous of these "school" designs this year are for the entrance gateway to a city —"Une porte de capitale"—a kind of thing which seems to be an entirely imaginary scheme nowadays, for the reason that cities are no longer, as formerly, confined within definite and recognisable boundary lines; they have become assortments of houses which ramify irregularly into the country; we have only official, not architectural, delimitations. In our own capital we have the boundaries of the City, and we had the last of the old gateways which marked its western line up to a few years since; and we still mark the City boundaries visibly at that and one or two other points. Besides that, we have in London only the area of the regulated cab-fare radius, and the limit of the jurisdiction of the London County Council, to suggest gates or arches of entry; perhaps "Entrance Gateway to the London County Council District" might do for a subject for an Institute competition, to stimulate the fancy and ambition of the students. In the case of the French Salon designs, the only one which has received the honour of being placed in the rooms devoted to the pick of the architectural drawings (the others being allowed to overflow into the loggia round the main hall), that by M. Chifflot, takes the Mediæval view of a city as a place for defence, and shows the entrance-gate as a tremendous semi-military erection, in which the mind of the engineer is more obvious than that of the architect. It is however the most striking and effective of the school designs of this class in the exhibition; but it is a mistake, the more notable because in the Arc de l'Étoile the French architect has an example of just the kind of thing that is permissible and in place in a modern city—viz., not a military gateway, but a State entry, for objects of architectural dignity alone, into a principal avenue or principal quarter of a city. This is a thing we might do in London, only that we have no such street as the Avenue de Champs Elysées to combine with it. In the process of some of our future London improvements, how-

ever, it might be matter for consideration whether we could find an opportunity for any State architectural erection that could be to London what the Arc de l'Étoile is to Paris—something a little better and more grandiose than our feeble Marble Arch and Constitution Hill Arch. But it ought to be an arch which the traffic should drive under; the one mistake of the Arc de l'Étoile is that it is a purely ornamental entry, and that the carriages drive round it instead of under it.

Among the few important illustrations of actual executed works may be reckoned the collection of large geometrical drawings of the "Dépôt Central du Matériel des Postes et Télégraphes," of which M. Scellier de Gisors is the architect. This is of course in the main a utilitarian building, and the drawings form a prominent example of the sternly utilitarian spirit in which a modern French architect goes into both the designing and illustrating of a government building of this kind. The building is a combination of yellow brick and iron, the principal portion being treated symmetrically; the elevation showing, on each side, the end of a long warehouse-looking building without division walls and with great windows with iron frames, the middle portion of the elevation showing the side of a building at right angles to the other two, and connected with them by iron bridges, beneath which access is obtained to a central courtyard. There is a low and very plain tower just rising above the line of buildings at one point; otherwise this is what may be called a warehouse design, and in the very large geometrical drawings exhibited it is shown with literally every brick separately drawn—whole square yards of brick jointing, and iron castings and connexions. No one in England would think of sending such drawings to the Academy, and the general supposition is that the Academy would not hang them if sent even on a smaller scale—that we cannot say, as we can discern no principle whatever in Academy hangings; yet it cannot be denied that this is a kind of exhibit which may be most useful to young architects, as a study of practical work, and one might even suppose it to be of some interest to the public to see exactly how utilitarian buildings, for which they are taxed, are carried out by the Government. The monument to Admiral Coligny, by the same architect, seems to show that if M. Gisors knows when to confine himself to pure utilitarianism, this is not because he has not the capacity for artistic design in architecture.

Another important executed work which is illustrated, and which is equally characteristic of Paris, is the large "Hôtel du Prince R. B - - - -," by M. Ernest Janty, just completed and shining in all the bloom of fresh-hewn stone on the east side of the Avenue d'Iena. This is a most complete and typical example of the Paris street mansion of the highest class. The plan is a very clever and complete one; the building runs through to Rue Fresnel, which is at an oblique angle with Avenue d'Iena, and the back block, surrounding a courtyard and given up to offices and servants' lodgings, is connected with the front or house proper by a large circular hall which serves to reconcile the divergent lines of the front and back portion of the building, and out of which the grand staircase opens. This staircase, sumptuous in marble and gilding, is shown in one of those perspective sections which the French draughtsman is such an adept at elaborating. The front of the house is very like the fronts of a good many other Paris mansions of the largest class, and that is enough general description of its style; there is no doubt far too much sameness in these modern Paris fronts, no doubt also that the detail is not of the highest class, architecturally considered; but there is nevertheless an appearance of combined luxury and dignity about the free Renaissance style in which they are carried out which goes far to give to the Paris streets that air of a high civilisation which is so deplorably wanting in many of the London streets even of better class houses. There is probably a much higher average of wealth among the better class of London residents than among a similar class in Paris, but in Paris there seems far more evidence of wealth in the dwellings themselves; people seem more willing to sink money liberally in the production of a fine house, and to this is due in a great measure the far more stately and palatial appearance of the best residential quarters of Paris as compared with those of London.

The type of French country-house design is shown in the plans and views of three villas on one sheet, by M. J. L. E. Brun: "Groupe de Villas dans le Midi de la France." Of the three, one is in the regulation Italian style, one in a "fidgetty" Italian style, one in the French gimcrack villa style, the worst of all. The plans are interesting, as they illustrate the principle nearly always observed in French small houses, of studying dignity and roominess in the sitting-rooms, at the expense of the other portions of the house; also the curious naïveté by which, in one of the plans, a water-closet exactly faces the *salon* door, on the opposite of the staircase. M. Bonnenfant's "Maison de Rapport, à Paris," is worse in this respect, for though a good deal of attention has been paid to the planning, which in some respects is well arranged for making the most out of the site, it is full of interior closets without light or ventilation, a kind of barbarism which it seems impossible to convert French architects from.

M. Henri Schmit's "Hôtel de Ville de Montdidier" is a very good specimen of the usual French type of small Hôtel de Ville, than which nothing can be better, with its generally dignified and graceful classic design, and its small roof-turret, just giving distinction and showing the building from a distance without going to [the cost of a generally useless tower. In the present instance the centre turret is rather oddly connected with the roof, giving an appearance (not quite satisfactory) as if the roof had been scooped out to make a seating for it; but in every other respect it is an exceptionally good design of its class. The usual design for a large "Palais pour les Expositions" appears (one is fortunate not to find a dozen of them) in the shape of a large set of drawings by M. Paul Dusart, evidently a student's design, which has however the merit of being more dignified and "classic" in line and style than is usually the case with modern French designs of this kind. Among designs for public buildings is one by M. L. J. Ridel for a Fine-Art Museum for Laval, which may be only a competition design; but whether it is the actual building for execution or not, it is highly creditable to its author, showing the best qualities of French modern classic design and of drawing. Here we find the Classic order used not in a merely imitative manner but with a view to special expression of scale and effect; the plan, with its long narrow side-lighted galleries, enclosing squarer-shaped top-light rooms in the centre, is also a good one for its purpose. The exhibition includes (naturally) a certain number of the competition designs for the Cairo Museum—not the best ones; one or two of those exhibited are most absurd revivals of pure Egyptian architecture; the design by MM. Arnaud and Drevet, which may be called Egyptian material treated in a Renaissance manner, is better. All these Cairo Museum designs, however, are relegated to the outer gallery, whence we may infer that not much importance is attached to them by the jury.

At the corner of one of the architectural rooms is an interior perspective of a church, by M. Hannotin, which should not be passed over, for M. Hannotin is to the French architectural room what Mr. Wilson is to the English one; he is the exhibitor who produces powerful water-colour drawings showing remarkable and original architectural effects, elaborated for effect merely, without plan or geometrical drawings. The one in question is a very dark church interior in which blue tones predominate, and which is lighted up by touches of gold half seen in the decoration, and by one light panel of artificial light. It is a perfectly unpractical drawing, but one of real artistic power, and gains added effect from its artistic metal frame.

The most important exhibit in the gallery of the central hall is M. Boutron's splendid series of drawings for the restoration of the Château de Montal, accompanied by photographs of the building in its present state, and a complete history of it on sheets arranged below the drawings. If the château is being restored as a modern habitation, the alterations are justifiable; in any case one must admire the labour and thoroughness with which the whole scheme is illustrated, forming a collection of drawings such as we never see in the architectural room at the Academy, where they would occupy fully one wall to themselves.

Of modern church architecture there are some examples, mostly of small village churches, a species of architecture in which the modern French architect does not show to advantage in English eyes. The ideal of a village church in England is quiet picturesqueness. No such aim seems to prevail in France, at least to judge from the hard, cold, formal character of the church designs to be seen here, in which the sentiment of church architecture, as felt in this country, seems entirely wanting. The best of those we noticed is M. Gromort's church for the village of Saint-Caprais in the Gironde, a modern Romanesque building in stone, with a low-pitched red-tiled roof with very projecting eaves, and a small belfry with a similar roof sloped the other way, at right angles to the main roof. There is a quiet taste in this which is in agreeable contrast to some of the things with gimcrack spiky spires which are to be seen in the collection. Among designs for modern houses there are one or two good specimens of town houses, rather overdone (as usual) with ornamental balconies, as in Mr. Sergent's house for the Rue de Berri;

but in this class of house French domestic architecture shows at its best; it is an architecture for the city, not for the country. What one misses in French domestic architecture is "home-like" expression; a defect which no doubt is to a great extent the result of the constant designing of houses in flats, where the individual "home" is ignored in the endeavour to produce a generally imposing and handsome building. A "Maison de convalescence," one would suppose, should have essentially the expression of quiet and comfort; but that in course of erection at Reims, from M. Fossier's plans, has quite the reverse appearance, showing hard mechanical stone details amid a waste of rubble walling. M. Bonnenfant's "Maison d'habitation" at Thiais, well planned and shown in a good set of drawings, has the same defect; it is all spotted over with a harlequinade of coloured bricks and tiles. It is to be presumed that the French client likes this style of country-house; in England it would be taken for a kind of casino.

In decorative design in colour the French always produce, at all events, fine drawings; M. Lavirotte's "Intérieur Byzantin," a study for the decoration of a chapel, is a drawing that would make its mark in any architectural collection; and M. Fournereau's elaborate illuminated title-page for a large illustrative book on "Siam Moderne" is a fine piece of work of its kind. M. Neef exhibits a set of coloured elevations for the decoration of a smoking-room, dining-room, and conservatory *en suite*, which is gorgeous in colour, but in such a taste as would be at once repudiated in England for anything but a public restaurant. The same with M. Masson-Détourbet's "Projet d'une Salle de Fêtes, &c., pour un Amateur," who must be indeed a very violent amateur if he loves that kind of thing. We are not above learning from the French on points on which they are our superiors; surely they might find it well to take in turn some lessons in coloured decoration from us; "this was sometime a paradox, but now the time gives it proof."

As already observed, there are more drawings and sketches of ancient work than usual at the Salon, and some of them very good, notably M. Paul Normand's water-colour sketches in Italy, Greece, and Egypt, in a fine free water-colour style. In the matter of pencil sketching the best of those exhibited are quite below the best mark of pencil sketching in England. Among illustrative drawings which are of special interest for their subjects as well as their execution are M. Delaunay's "Études sur un Abbaye" (he does not identify the building), a study of an old Renaissance building with some very interesting detail; M. Deperthes' water-colour drawing of the old church of Saint-Thégonec (Finistère) with its corrupt classic detail and curious gateway; and M. Guédy's drawing of the Gothic decorative paintings on wood at the chapel of Viaulnay, Château-Gontier, an example of the strange things to be found in out-of-the-way places in France. This is a wooden screen divided into compartments by vertical wooden bars or mullions, with a rude imitation of niches formed by oblique pieces springing from the vertical bars and meeting at the centre, representing a kind of straight-lined arch; the junctions of the bars are decorated alternately with a shield or lozenge and a shell, all in wood and painted. Within the compartments thus formed are figures of saints of very naïve design, painted on common boarding with the gaps showing; the whole forming a most singular relic of Mediæval art, well worth the careful illustration it receives in the drawing.

At the Champ de Mars salon architecture, as usual, is not largely represented, but the exhibits give one the opportunity of studying some of the fantastic imaginings in which the *fin de siècle* French architect can indulge, such as M. Garas' series of drawings entitled "Intérieurs d'artiste," unquestionably clever, indeed remarkable in a way, but more like the things of a dream than of this world. They are described as "études des tentures sur peluche inspirées de la littérature décadente," and are accompanied by the following quotation from Baudelaire —

"Parole vide que nous entendons souvent tomber, avec la sonorité d'un baillement emphatique, de la bouche de ces sphinx sans énigme qui veillent devant les portes saintes d'Esthétique classique."

This is at all events an attempt to impart an intellectual symbolism to a scheme of decoration, and as such should perhaps be regarded with a respect which one can hardly accord to some of the other whims exhibited, such as M. Provensal's "Asile de Rêve," a white palace taking the form of a sphinx *en bloc*. M. Benouville's model of a scheme for transforming the central courtyard of the Château of Haarzwilen (Utrecht) into an interior hall is exceedingly clever and very elaborately executed, with a mirror at what would be the ground level to enable the visitor the better to see the details of the groined roof. The architectural rooms include examples of furniture and furnished rooms, of which the only one worth notice is the "Cabinet de Travail" got up by M. Serrurier, which is far superior in taste to what we generally find in French exhibits of this class, and looks as if the author were not unacquainted with the kind of work exhibited from time to time at the "Arts and Crafts" exhibitions in London.

NOTES.

Lord Leighton's House.

IT was fitting that the Architectural Association should have made the last of its spring visits to Lord Leighton's house in Holland Park-road and it is a significant fact that the attendance was the largest on record at these visits, for a party of over 250 members were present. The architect of the house, Professor Aitchison, was present and described the history of the building. The principal attractions were the Arab Hall, so often described, and the studio on the first floor. The house itself was erected in 1866, and the Arab Hall was added afterwards. Professor Aitchison described with some detail the tile work from Damascus and Persia, the Eastern leaded and stained glass with which the windows in the Arab Hall are fitted, and the lattice-work screens of Eastern origin which are fitted to the windows. The effect of the subdued colouring in blue and white of the tile-work, and the dark-facing marbles, contrasts well with the bright colouring of the glass; and the value of the splashing fountain in the centre as a reposeful note to the whole scheme was appreciated by the members.

Ecclesiastical Decorative Art.

AT No. 6, Millbank-street, Westminster, a small but interesting exhibition has been opened within the past week. A society called the "Clergy and Artist's Association" has been formed, in order to endeavour to bring the clergyman and the artist more directly in contact, and to improve generally the artistic excellence of the fittings and decorations of churches. The exhibition deserves to be on a much larger scale—the contents of two rooms at Millbank cannot pretend to be anything like a representation, but with time it might become a very valuable and permanent centre, and help largely in the replacing, by works of really artistic merit and originality, the "stock pattern," which we are afraid is not wholly a thing of the past. Amongst the most interesting of the exhibits are the following: — A private altar, and a cartoon for a stained glass window at Rossel College Chapel, by Mr. Louis Davis; a study of angels' heads by Mr. W. F. Britten; a crucifixion by Mr. E. Wooliscroft Rhead; several drawings of the new church at Teddington by Mr. A. H. Skipworth (which have been illustrated from time to time in our pages), some modern Della Robbia ware by Mr. Conrad Dressler; ironwork and photographs of ironwork by Mr. B Reynolds; and a very beautiful memorial tablet to be fixed in St. Bartholomew's Church, E.C., executed in beaten and forged copper, with portions in enamel, designed by Mr. Nelson Dawson. If the Association, in enlarging its exhibitions in the future, maintains the same standard of excellence, much good will undoubtedly be done in raising the artistic value of our church decorative work. Much has been done within recent years, but there is still ample scope for work which, although largely founded on ancient examples, is not necessarily copied from them, but possesses originality of treatment.

Lord Grimthorpe again.

IT appears that Lord Grimthorpe, having made the great building at St. Albans a monstrosity, is now disposed to run a-muck among the old churches of the district, and his next achievement is to be the destruction of the old tower of St. Michael's and the rebuilding of a new one after his own designs. A Vestry meeting has been held to consider the subject, at which Lord Grimthorpe read the proposed petition to the Chancellor of the diocese to allow the work to be put into his hands, a petition the style and grammar of which are characteristically Grimthorpian. The Chairman asked a good many questions as to the architectural treatment of the new tower, but was cut short by the intimation from Lord Grimthorpe that "if they did not choose to accept his terms they would not get anything"; whereupon the vestry appears to have obeyed his dictation. All this is amusing enough in a way; but some people may be inclined to ask whether the legal custodians of an old church are exactly fulfilling their duty in handing it over to Lord Grimthorpe, as a *corpus vile* on which to indulge himself in his favourite amusement of playing at being an architect.

The Congress of French Architects.

THE annual Congress of French architects will be held this year in Paris, commencing on June 15. Among the objects of architectural interest in Paris, to which visits are generally

made, special attention will be given to two new churches, the Greek church in Rue Bizet, and the church of Saint Anne in Rue Tolbiac. The church in Rue Bizet was built after the designs and under the direction of M. Vaudremer, and is based on Byzantine models. The church of St. Anne, not yet completed, is the work of M. Prosper Bobin, one of the ablest pupils of MM. Vaudoyer and Coquart. The new Sorbonne will also be included among the visits. On June 18 a special excursion will be made to Reims, which was last visited by the Congress in 1878, and perhaps contains more objects of architectural interest, including its famous cathedral, than any other town within the same distance from Paris.

The St. Petersburg Architectural Society.

THE Architectural Society at St. Petersburg lately celebrated the twenty-fifth anniversary of its foundation, and we have to thank Professor Schroeter for some particulars of this institution. Professor Victor Schroeter, who is now one of the leading architects in Russia, and whose works we have frequently had occasion to illustrate in our pages, is practically the founder of the Society, as he had already organised a kind of architectural club as far back as 1862. The new Society was formed by members of this old club, and the Tsar has given this institution a charter, with the right of calling itself an "Imperial" body, to commemorate the anniversary. The Honorary President of the Society is the Grand Duke Vladimir, who took office in 1873. Professor Giebert is the present chairman. The objects of the Society are in the main similar to those of kindred bodies in other countries, except that there is a special feature in the shape of a "Clerk of Works' School," which has been founded under its auspices, with a view to improving this class of technical employees.

Lincoln's Inn Fields.

EVEN those who were most opposed to the opening to the public of the gardens of Lincoln's Inn Fields must now admit that it was a change which was far too long delayed. Instead of being neglected and dreary, they are now properly cared for; bare patches are becoming covered with grass, and the shrubberies are properly tended and will shortly, we hope, contain varieties of flowering and foliaged plants. The guard-railings along the edges of the turf are somewhat higher than need be, and rather break the view, but this is a minor matter. Nothing can be more orderly than the conduct of those who are to be found in the gardens. The place forms a charming recreation ground during the mid-day hour to the numerous clerks who are engaged in the offices in the Fields. Thus the opening to the public of these gardens has added enormously to the general enjoyment, without in the least causing any annoyance to those who are engaged in business pursuits in the surrounding buildings.

Sanitary State of Pembroke.

DR. REECE'S Report to the Local Government Board on the sanitary state of those most dreary little towns, Pembroke and Pembroke Dock, goes to show that they are as undesirable places inwardly as in outward show. The water supply is partly (the best part of it) from drifts in the sandstone, whence it is impounded in reservoirs and delivered by gravitation, unfiltered to the town, partly from wells which are described as nearly all liable to surface pollution as to soakage from privies and middens. There cannot be said to be any system of sewerage at all, the sewers being merely rubble drains made originally to carry off surface water, many of them now receiving slop-water and closet drainage. About one-third of the houses are supplied with water-closets about half of which are outside the houses; the others have middens the duty of cleaning out which is imposed on the householder, with the usual consequence in poor districts (as we have noticed over and over again in these Local Government Board Reports) that they never are emptied till the Inspector of Nuisances finds it necessary to give a peremptory order. The Report concludes with the statement that the Medical Officer of Health has kept the Local Authorities fully informed as to the sanitary requirements of the place for a long time back, but they have for the most part disregarded his reports and made no attempt to carry out any improvement. It should be remembered that Pembroke Dock is practically a Government dockyard town, as the town has entirely arisen from the necessity of accommodation for the dockyard hands.

Alternating *v.* Continuous Current.

WE have received a letter from Mr. Fyfe, of the Fyfe-Main Electric Lighting Company, to the effect that since there have been nine fatal accidents to employés at high-pressure alternating current central stations, and none at all at low-pressure continuous current stations, therefore low-pressure current supply is safe, and alternating current supply dangerous. He fails to point out, however, that at least four of these deaths were due to workmen disregarding rules; and, considering the number of high-pressure alternating current central stations there are in this country, we think that there is no occasion to be alarmed for the safety of the workmen they employ. We are convinced that the danger to the public is from the 200 volt continuous current supply on the three-wire system, and not from alternating current supply. Mr. Fyfe also says that electric light and power can be more efficiently and economically supplied in towns and urban districts within a radius of five or six miles by continuous currents than by alternating. This is a novel statement, and we should be extremely interested to know how this could possibly be done.

Electric Lighting at Brighton.

BRIGHTON seems to be about to revolutionise the ordinary methods of electric supply, just as it led the way in introducing a sliding scale of charges. At present there is a dual system. The central portion of the town is supplied on the continuous current three-wire system, and the outlying districts by a high-pressure alternating current ring main. It is in this latter portion of the supply that Mr. Arthur Wright has introduced a novel change. From sunset until eleven p.m. it is supplied with alternating current, but at other times with continuous current. At the times of changing over there is a blink in the light, but owing to the hours at which this happens, it is hardly noticed. By avoiding the necessity of keeping large transformers magnetised all day long, a great economy is effected in the coal bill. Of course many difficulties had to be surmounted, but by means of a bicycle switchman and metres that read equally well with alternating and direct current this has been done. The system is now working smoothly, and the load factor at the Brighton Station actually approaches 60 per cent. We congratulate Mr. Wright on having effected great economies by perfectly legitimate means.

Cambridge House, Twickenham.

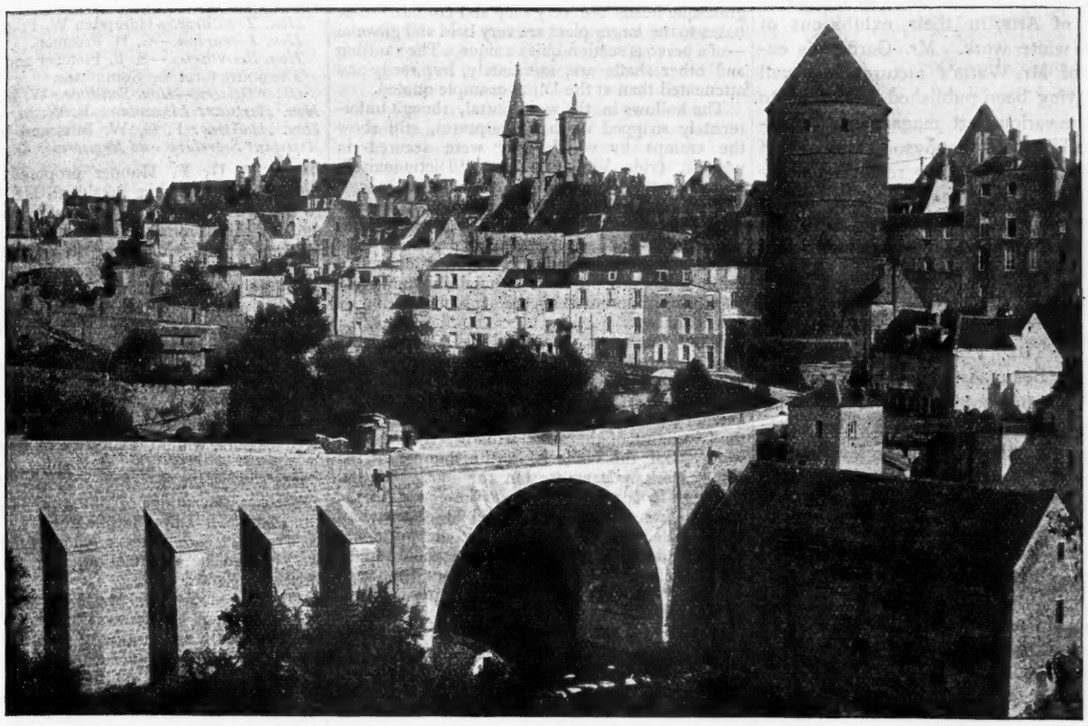
THE projected sale of Cambridge House and grounds at Twickenham, for building purposes, seems to presage the demolition of a house which in the latter half of last century was the resort of the many celebrated friends of Richard Owen Cambridge. Originally built *circa* 1610 by Humphry Lynd, it became, after his death, the residence of Joyce, Countess of Totnes, *obiit* 1636, and then of Wyndham Ashe, who enlarged the house and built its west front. Cambridge bought the property in 1751, and abode there until his death in 1802. The house was occupied for a while by his son, the Archdeacon (who brought out an edition of his father's works with memoir); he afterwards removed to a smaller one built close by, Meadowbank, for a long time inhabited by George Bishop, who there erected the observatory of which J. R. Hind, F.R.S., was superintendent. Cambridge House was subsequently occupied by Lord Mount Edgcumbe; it retains many of its comfortable old-fashioned features, and is pleasantly situated amongst the meadows near Richmond Bridge.

"Toole's" Theatre, West Strand.

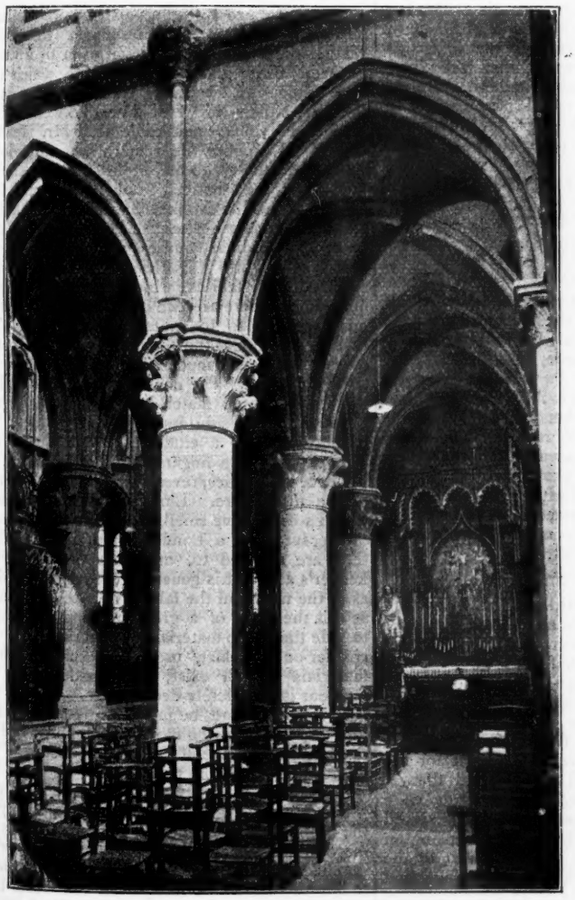
IT is stated that the governing body of Charing Cross Hospital are about to pull down "Toole's" Theatre, in King William-street, together with the rooms of the "Beefsteak" Club above, and to take the site for an enlargement of the hospital. The theatre, once known as the "Charing Cross," had been the chapel and home, 1848-56, of the Fathers of the London Oratory of St. Philip Neri, before their removal to Brompton, and there, in 1850, the late Cardinal Newman delivered his lectures upon "Anglican Difficulties"—see Mr. Walford's "Old and New London." The street forms part of the improvements made in that quarter in the reign of William IV. The earlier part of the hospital (since enlarged) was designed by Decimus Burton, 1832. The club, we understand, have found another domicile in the new buildings, Green-street, Leicester-square. The original "Sublime Society of Beeksteaks" was founded in 1735 by Rich, and Lambert the scene-painter, of Covent Garden Theatre, where they met until the house was burnt down in 1808. They migrated to the (old) Lyceum in the following year, and then, after a sojourn (1830-8) at the "Bedford Head," returned to the (new) Lyceum, built, 1833-4, by S. Beazley.

A Lecture on Wood-Engraving.

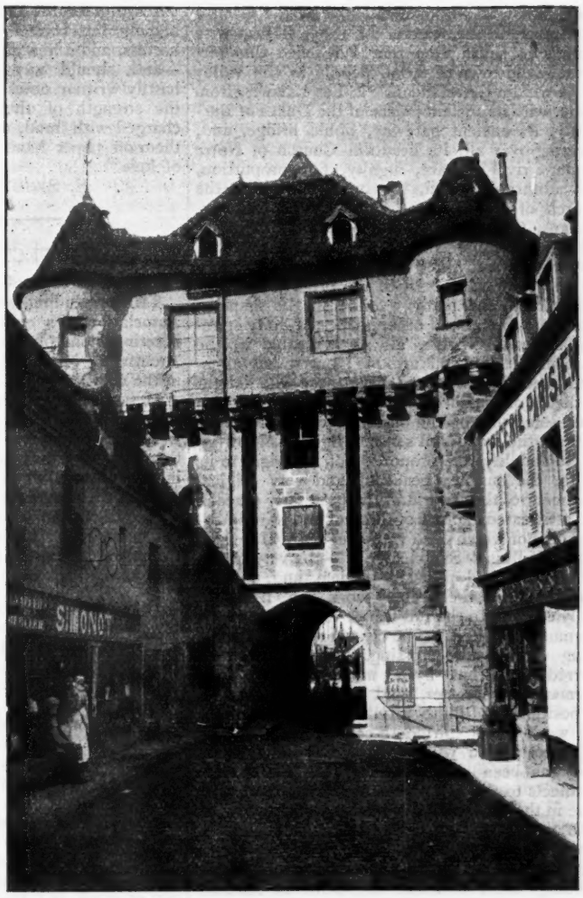
MR. W. BISCOMBE GARDNER'S paper at the Society of Arts on Tuesday evening was an interesting lecture by one who may justly be considered as one of the finest of our present wood-engravers. That the superiority of wood-engraving over steel and copper-plate



Semur: General View from Bridge over the Armançon.



Nôtre Dame, Semur: South Aisles of Choir from South Transept.



Ancient Gateway, Semur. [SEE NEXT PAGE.

engraving should be one of the main points of the paper was perhaps only natural, and Mr. Gardner's work, of which many examples were shown, gave good evidence of the remarkable power that wood-engraving possesses of reproducing the "technique" of the painting copied. Mr. Gardner was here, of course, speaking of the art as a process of reproducing paintings, as distinct from original wood-engravings. That in these days wood-engraving, with its lengthy and costly process, has serious rivals in the photographic reproductions that form so large a proportion of the illustrations in magazines and periodicals is, no doubt, true; but Mr. Gardner was, we think, fully justified in claiming for wood-engraving a place of equal importance with steel and copper,

and its right to be considered a fine art, and to have some acknowledgment by the Royal Academy of Arts, in their exhibitions of black and white work. Mr. Gardiner's engravings of Mr. Watts's pictures are well known, having been published from time to time in the various art magazines. A portrait of the late Lord Tennyson, and one of Mr. Gladstone, were two remarkable examples of what wood-engraving can do in competent hands, and we hope with Mr. Gardiner that a time will soon come when really high-class wood-engraving will be more fully appreciated than it is at present.

"École des Beaux-Arts" Competitions.

THE French Académie des Beaux-Arts has set its students a fine subject for the next competition for the Prix de Rome, viz.: an "École Supérieure des Hautes Études Maritimes," to be erected in a seaport and on the margin of the sea. This ought to be stimulating to the architectural imagination, in which, at all events, French architectural students are by no means deficient; and though their designs are generally too ambitious to have any practical chance of being carried out, there is at least a great deal of interest and educational value in working out a grand architectural idea on paper.

SEMUR EN AUXOIS.

AFTER a long and delightful tour viâ Le Puy, Lyons, the Gallo-Roman cities, and the Grande Chartreuse, in the summer of 1895, it was with feelings of satisfaction that I reached this picturesque old town of 6,000 people in the valley of the winding Armançon, viâ Les Laumes, from Dijon, with its ancient palace of the Dukes of Burgundy, its ancient gateway, noble bridge, and, towering over all, its beautiful Church of Nôtre Dame, a rival in grace, dignity, fine proportion, and admirable detail, to say the least, with the Church of Our Lady at Dijon (which latter is, perhaps, the most delicate of all the churches built in that graceful early Burgundian style). Semur possesses three towers, a noble western narthex, a west door with the original trumeau unmutilated, and many "foils" in the shape of later glass, metal and other grilles, a lofty spire-like stone tabernacle, all so agreeable to the searcher after the picturesque; but it has apparently been but little visited by those who delight to sketch or measure good old work, possibly because somewhat off the beaten track. The beautiful plan, the wonderful sense of lightness growing out of stability, the proportion of its height to its width, the curious, beautiful, and very original treatment of the triforium, the peculiarly graceful and attenuated capitals of its choir and transepts—the spirit of which is so well caught by Mr. Eden Nesfield in his "Sketch Book"—the very quaint but graceful and pleasing piscinæ, and, indeed, the charm of the whole work can never be really enjoyed to the full from books or drawings, but must be visited. The central octagonal spire, rising over a square crossing, though it has been marred somewhat by a modern stone finial, German in character, and much too large for its position, is still, to all intents and purposes, the work of its thirteenth-century designer, and in perfect accord with the building; and, whatever has been done by the late Flamboyant architects to the two towers at the west end, they have in the main rather gained than lost by it.

In the interior there are many side chapels, nearly all possessing great interest, and of varying dates and styles. Many of the portions of the buildings seem to recall the work at Auxerre Cathedral as much as the work of Dijon. The vaulting of the roof is quadripartite throughout, very simple, and, to my mind, entirely satisfactory in effect, as it certainly appears also as to its stability. The great height of the lancets forming the clearstory in the apse of the choir is, if I may coin a term, quite "Pearsonian" in character. The church east of the transepts has double aisles, giving a great sense of mystery to the perspectives thereabouts, but the great sense of height as opposed to breadth is everywhere most noticeable and most delightsome. The details and much of the beautiful stone carvings have suffered much at the hands of the modern "decorator." The grotesque heads are very racy and curious. The bases to the larger piers are very bold and graceful—of a nervous section quite unique. The vaulting and other shafts are, fortunately, less reedy and attenuated than at the Dijon example quoted.

The hollows in the west portal, though unfortunately stripped of their sculptures, still show the cramps by which they were secured in position (vide Viollet-le-Duc, "Dictionnaire," T. i., p. 53).

The tabernacle retains its wrought-iron door with the original lock. There is a good Flamboyant reredos of wood, with panel pictures, the whole decorated and gilt, in the east chapel of the north transept, and a modern and very inferior imitation of it in the similar position in south transept.

Many fragments, more or less complete, of good painted glass remain. Some represent various craftsmen at their several vocations; one, a butcher killing an ox with the *back* of his hatchet; another selling the meat—these forming the two lights of the same window. Some ironwork about the choir is in the manner of the Nancy work by Lamour; but the most beautiful ironwork in the building is to be found in the wrought-iron screen to a chapel at east end of north aisle, with escallops, very elaborate traceries, and much twisted work, the whole topped with an effective and useful chevaux-de-frise.

As a "foil" to much of the Early work, I should not forget to mention that the building is very "up to date," being actually lighted by electricity.

In conclusion, being able honestly to say thus much about Semur en Auxois at the close of a tour (and *such* a tour!) should, I think, make it clear that if I had taken it on the *outward* journey the beauties of this remarkable church would have been, if possible, even more strongly impressed upon me. I have much pleasure in adding, for the benefit of any who may be disposed to visit this quaint old town, that there is a homely inn (Hôtel du Commerce), a kindly hostess, and a reasonable reckoning at departure—and, should any brother-architect see these hastily-written notes of mine, and go there on the strength of them, I shall not fear to be charged with fraud, nor will my labour in putting them on paper have been other than a "labour of love."

E. SWINFEN HARRIS, F.R.I.B.A.

THE ARCHITECTURAL ASSOCIATION: FABRICS.

THE concluding meeting of the Session of this Association was held on the 8th inst., in the Meeting-room of the Royal Institute of British Architects, Mr. W. D. Caröe, M.A. (President), in the chair.

Messrs. C. E. New and A. J. Quartermain having been elected members, several donations were announced to the library, and votes of thanks were passed to the several donors, including the proprietors of the professional papers for sending their journals regularly.

A vote of thanks was passed to Messrs. Isaacs & Florence for allowing the members to visit the Coburg Hotel on the 25th ult.

A. A. Travelling Studentship.

In reference to the award of the Travelling Studentship, the Committee had received a letter from Mr. Marvin, the secretary of the Prizes Sub-committee. This stated that three sets of drawings had been received, the authors being Messrs. De Gruchy, Waring, and Hide. The Committee were unanimous in placing the drawings of Mr. De Gruchy first, and advised his appointment as A. A. Travelling Student for the year. The Committee had not awarded the £5 to Mr. Waring, for, though his drawings were not without merit, the measured ones represented casts of monuments at the South Kensington Museum, and it was not quite the idea of the A. A. Travelling Studentship to encourage that sort of work, but the study of existing buildings with their construction.

Elections.

The report of the scrutineers showed that the result of the election for the officers and committee for session 1896-97 was as follows:—

President.—A. Beresford Pite.
Vice-Presidents.—W. H. Seth Smith and J. Begg.
Ordinary Members of Committee.—W. D. Caröe, 209 votes; E. W. Mountford, 207 votes; G. H. F. Prynne, 190 votes; F. G. F. Hooper, 186 votes; F. T. W. Goldsmith, 184 votes; O. Fleming, 178 votes; A. H. Hart, 173 votes; J. W. Stonhold, 118 votes; A. W. Earle, 117 votes; R. S. Balfour, 116 votes.
Hon. Treasurer.—Hampden W. Pratt.
Hon. Librarian.—C. H. Freeman.
Hon. Secretaries.—B. F. Fletcher and E. H. Sim.
The above form the Committee.
Other Officers.—Hon. Solicitor: W. H. Jamieson.
Hon. Assistant Librarian: E. W. M. Wonnacott.
Hon. Auditors: F. G. W. Buss and M. Garbutt.
Assistant Secretary and Registrar: D. G. Driver.

Mr. F. G. F. Hooper proposed a vote of thanks to the retiring President, Mr. Caröe, and to the two Vice-Presidents, Mr. Fellowes Prynne and Mr. Goldsmith. Having had an opportunity on the Committee of seeing the amount of interest and enthusiasm thrown by each of those gentlemen into the work of the Association, it was an extreme pleasure to propose a vote of thanks to them at the termination of their year of office. Mr. Caröe's enthusiasm was evident from the very first time he joined the Committee. That was not the moment for rehearsing the events and successes of the now closing session, but he thought it compared favourably with any of its predecessors, while the prestige of the Presidentship had not in any way suffered from Mr. Caröe's occupation of the post. They had expected great things of him, and their expectations had been amply fulfilled.

Mr. C. H. Brodie seconded the motion, which was carried by acclamation, and the President briefly replied.

On the motion of Mr. Fellowes Prynne, a hearty vote of thanks was passed to the two Secretaries, in recognition of the great amount of work they had done during the year.

Votes of thanks were also passed to Mr. Stonhold, the Librarian; to Mr. Pratt, the Honorary Treasurer; and to Mr. Wonnacott, as well as to the members of the Committee; a special vote being also passed to Mr. Hart, on his retirement from the office of Junior Secretary.

Mr. Craft Smith then read the following paper by Mr. Aldam Heaton on "Fabrics":—

Some time ago I read a paper before the Institute of Architects upon "Hangings," in which I gave a most elementary description of a variety of useful fabrics and the yarns from which they were made, and I was amused to see that one of the daily papers said, "it would be well if Peter Robinson's young men could read Mr. Heaton's paper." I suppose the remark was intended to be complimentary, to me, at least, but it showed that others had noticed what I had long been aware of, that the shopkeeper's assistant is known to be profoundly ignorant of the nature and constituents of ordinary fabrics.

If you go into a Yorkshire mill and produce specimens of fabrics which are interesting or uncommon, there are two or three simple tests at once resorted to to explain their nature. The first is commonly the tongue; wool and cotton reveal their nature much more plainly when wet than when dry. The next is fire; upon application of a lighted match you at once distinguish between animal substances and vegetable. The former burns to a cinder, the latter to an ash, like paper. The fingers, also, of a person experienced in fabrics, reveal very much. The nose tells a little more. Linen, for instance, rarely loses its distinctive smell, even after many years of exposure. In a London shop, none of these tests are resorted to, and your ordinary shopkeeper's assistant is generally entirely in the dark as to the nature of the fabrics he is selling. And, as it is the study of a great many manufacturers to hide the cheap materials of a fabric behind the costlier ones, in fact, pretending that the cheap materials do not exist, no wonder that the amateur is completely deceived.

It will, therefore, be my aim to point out carefully the nature of the most useful fibres, and by that means to arrive at the characteristics of the fabrics produced from them.

There is no use talking of "good fabrics" and "bad fabrics"; but only of their suitability to the uses we make of them. Perhaps there is no more rubbishy-looking fabric produced than what is called "scrim," but the man who has to line a rough wall knows perfectly well that scrim is a really good article when so used. In the same way, the poor miserable fabric called "butter-cloth" is admirably suited to the wrapping up of butter, and is as good for the purpose as paper is bad. The mischief steps in when people attempt to make curtains of scrim, or dresses of butter-cloth. A few years ago some of the ladies who commenced the School of Needlework in Kensington, set the fashion of using Bolton sheeting for dresses—and even embroidered dresses. No doubt there is a proper use for Bolton sheeting, though I have

never been able to find it out myself—unless it be to make sheets for paupers; but a viler misuse of a fabric than to put it to carry embroidery for dresses was surely never thought of.

Of course, it would be impossible for me, under present limits, to go through all known fabrics, and to inquire into all their uses; I can only attempt to examine the more common and the more useful, especially in regard to the substances from which they are made.

The terrible fashion which has set in of late years, to have everything at an almost impossible price, has further muddled us in a question of which most of us were sufficiently ignorant. For now it has become necessary for the manufacturer who has looms to keep going to make linen appear like silk, cotton like wool, jute like linen; to hide threads, which form the substance of the fabric, behind others and costlier ones which form its surface; and so, if possible, to deceive even the very elect.

I suppose cotton to be the fibre which mankind first made use of for woven fabrics. The history of the early stages is buried in obscurity, and certainly it is quite antecedent to any known literature. I have seen a specimen of cotton fabric, produced at least four thousand years before the Christian era—a piece of mummy cloth—and though a great many ancient manufactures are made of linen, I think, considering that parts of India, and Egypt, were settled, and, so to speak, civilised countries long before these western lands, there can be no doubt that cotton fabrics are the earliest productions. But whichever it be, cotton or linen, is little to our present purpose. Both of them are very long in the fibre compared with wool, and entirely without spring and elasticity. Crush, or pinch, or bend either of them, and they assume and retain the bent and crushed form so obtained; in contrast to the behaviour of an animal fibre, which springs back into its original form.

[Mr. Heaton then referred to a variety of photographs of various fibres greatly enlarged for comparison as to the bulk of horse-hair, wool, cotton, silk, and showing especially how the cotton fibre was devoid of spring and elasticity.]

Now this is an exceedingly important element in these vegetable fibres; if the use to which you apply them demands that they should hang in good folds, and have natural spring in them to retain these folds when crushed or crumpled, clearly they are inadequate. They are, for the most part, cheap fibres, and their length of "staple" (as it is termed, alluding to the natural length of the growth), adds greatly to the strength of the yarn produced from them, and in this respect they have always an advantage over short-staple fibres.

The fibre of cotton, in its manner of growth, is quite straight, has none of the wriggle or wave of wool, and in spinning is kept straight. Its chief utility for better and more valuable fabrics is that of forming a cheap and useful warp (the length-way threads of a fabric) and as it may be made into an exceedingly strong thread, owing to its evenness and length of staple, it must always form a most useful and desirable fibre for that purpose. Unfortunately, its cheapness tempts the competing manufacturer to use it for weft also (the cross-way threads), and so used, its inferiority to animal fibres becomes apparent, for it is entirely free from lustre, and absolutely flaccid and without spring. Consequently, however useful it may be in its place, it is certain greatly to depreciate those fabrics where lustre and spring are essential.

You will see from these remarks that cotton, apart from the question of warmth, must always be amongst the inferior and less valuable of fibres. And when one considers how largely the question of warmth for dress and hangings, in these northern countries, affects our view of the value of a woven fabric, you will see at once its undesirability in the majority of our better fabrics, and when competition comes in to make it used when it ought not to be used, its cheapness is a snare of the greatest magnitude.

I cannot forget here the question of utility. Short-sighted people will go about saying, when warned that a fabric will not wear, "Oh, it will last long enough for me." But there inevitably comes a day of retribution; and it is not to the credit of any of us, still less to the credit of decent housewifery, that we should encourage the use of a fabric which will not wear a reasonable time. There is sure to be a day of recrimination and repentance when one has allowed a bad article to be used. People are well aware of this when they come to the constructional questions of a building. You do not build with a brick or a slate which is only to last two or three years—or even with a plaster which will crumble in the same time. The weakness is too evident, and the consequent regret and ill repute too immediate; but people will constantly use woven fabrics which their own sense should tell them, let alone the warning of a conscientious salesman, will be shabby in a twelvemonth.

And any dyer, and any shopkeeper even, will tell you quite plainly that a fibre of cotton will not take dye at all well. There are one or two exceptions to this rule, as in the case of Turkey red and indigo, and possibly the dyes obtainable from cachou. But for all that, the rule holds good that cotton receives dye badly; therefore any salesman should advise people that a fabric which has its main surface of cotton should be used only sparingly when dyed. In printed work this remark does not quite apply, because the mordants used in printing are so much more reliable and serviceable than any mordant used in dyeing. Its true serviceableness is in its natural white, or creamy-white state.

Even two or three years ago a French traveller who came over selling fabrics in this country used to say as a recommendation "it is all wool," or "all wool and silk." Lately this remark has been entirely dropped, because the fabrics he now brings are half, or nine-tenths, or entirely cotton. Ask him about the permanence of these, and he has not a word to say. He shrugs his shoulders, and says, "Monsieur, it is what is wanted." And these remarks apply to all the vegetable fibres.

Linen is a fibre of a still longer staple than cotton; but it is relatively clumsy, and never loses, however much it is handled, a certain stiffness. Now this quality makes it valuable for sheets and towels and the napery of the table; but in price it cannot compete with cotton, and its uses are much more limited. It is exceedingly strong and enduring, and it is only when manufacturers use it to supersede wool, wishing the unwary to mistake its stiffness for the spring and firmness of wool, that its undesirability is discovered. If people, in buying fabrics in shops, would take the simple precaution to light a lucifer match and test the nature of the fibre (animal or vegetable) where there is any doubt, they would hold manufacturers in check about this false use of linen.

Perhaps, in linen the undesirability of using things out of their proper sphere is most apparent. For warm or temperate climates its smooth and almost lustre-like surface, forming the very best of conductors, makes it feel, as we see in sheets and table-linen, agreeably cool to the touch. And here, I think, is its greatest value. But its stiffness and comparative coarseness will always render it one of the least used of our fibres.

Silk must have been used in very early times, and being an article of Oriental production it may have been used as early as cotton. As an animal production it at once attains a value, as also from its lustre, which can never be accorded to the vegetable fibres. But its principal characteristic is the smallness of the fibre, which can be best understood by telling you that about seventy-five miles of it only weighs one ounce.

As a first process in the manipulation, the cocoon is thrown into hot water, and is then fingered and rolled round, and otherwise slightly rubbed, until the outside end frees itself from the rest; and the manipulators then pass it over a wheel or spindle, and in this way the original filament of the silk-worm is obtained free. But, owing to its exceeding smallness, four of these threads are usually wound together; and the thread generally used, by the embroiderer, *e.g.*, for high-class work, is at least twenty of the silk worm's threads. I mention this merely to give you some idea of the exceeding smallness. It is flaccid, and for the most part springless, except when used in considerable bulk; but, as you all know, it has a beautiful lustre, and may be called the prince of fibres from an ornamental point of view.

And here I must break off to draw a broad distinction between silk called in trade "net" silk (the thread of the silk-worm) and "spun" silk, which is composed of the spoilt cocoons, either where the worm has died inside or has eaten its way out; in which cases the cocoon could not be wound off. It is entirely a modern manufacture to utilise these dead or spoilt cocoons; and the result must never be confounded with the silk-worm's filament. The manufacturing process is that the whole of these inferior or spoilt cocoons must be softened by boiling, and then pulled out anyhow into a factitious thread, including even the very body of the worm itself; so that if you come across a silk fabric which seems unusually heavy, at a moderate price, you may know at once that it is this inferior silk. Naturally, it is always irregular and full of lumps and rubbish; the silk fibres not going all one way, as they ought to go, but in a tangle and mess. Its price may be considered, for our present purpose, not more than one-fourth of net silk. No doubt it has its uses; but they are comparatively few compared with the real article; and it should always be borne in mind that, from the nature of the yarns so made, it receives dirt rapidly. I need only point out the modern questionable use of it in the form of plush to illustrate my meaning. It is always a source of regret to me to find how far embroiderers consent to use it in the form of filoselle. Hence arises, I think, a great deal of the thoroughly inferior embroidery of the present day, as compared with old Italian or Spanish work, which was always made from the silk-worm's filament.

The manufacture of this filament is known in trade by the word "throwing"; the factitious thread I have been discussing is known as "spun"; and the throwster and spinner are, in manufacturing districts, engaged in entirely different trades.

Thrown silk is occasionally required as fine as four of the silkworm's filaments. Spun silk is more the thickness of eighty to a hundred. If you can think of the superiority of an old Lyons velvet to modern plush, you have the difference between the two well accentuated.

It is difficult for the inhabitants of a cold or temperate climate to assume the feelings on these questions of an Oriental, but, speaking as a European, I confess I cannot but think of wool as far the most valuable fibre we have. I should think it came into use later than cotton; but I do not think there is any utility in endeavouring to ascertain how much later.

There is a broad distinction to be made between wools; or, to use the trade phrase, between "worsted" and "woollen." It is only a distinction that has come of our manner of manipulating it, but still it is a very broad and necessary and useful distinction; and I want to explain it to you, because I see the utmost confusion here in the south of England about it; in the manufacturing parts of Yorkshire, the seat of the trade in both, every apprentice boy knows the meaning of that distinction.

Fine wool, grown in the hotter climates of the world, has a natural wriggle or wave in it, so that the nigger song which speaks of "the wool on the top of his head" has more truth than one thinks.

All the wools of the colder climates are straight and of the nature of our own hair. Goats' hair, the wools of Iceland and Russian sheep, the north of England wool, and many other sorts are all straight, or, if they have a wave, have very little, certainly nothing which can be called a wriggle. Many of these fibres are at least 6 in. in length, some longer, while the wool of the more southern countries, Southdowns of England, Saxony, and especially Australia, are full of wriggle, and they are seldom more than one-third of the length of the hairy wools which we have been speaking of, and are often only 1 in. in length.

Now, when these northern wools come to be manipulated, they are kept straight during all the processes of spinning, and, somehow or other, have come to be called "worsted." It is said that this word is derived from the name of a little town in Norfolk, to which Flemish spinners and weavers emigrated and used these very wools; but I will not vouch for the accuracy of this explanation.

[Mr. Heaton here exhibited photographs of wools and the yarns spun from them.]

The short and fine wools have too much wriggle in them, and are too short in staple to be so treated, and they are spun without any attention to the position of the fires, which wriggle up and felt together in the manipulation, and are popularly called "woollen." If you consider the difference between these two processes, you will find it to be immense. The "woollen" is used for most of our clothing and blankets, and things we require for warmth. The "worsted" is a much better conductor, and so is not adaptable for this purpose.

As regards value, however, the worsted is considerably ahead of the other. Goat's hair fetches ordinarily 2s. per lb., partly, no doubt, from its beautiful gloss and spring, while I have seen wool sent into Liverpool for sale, of which the staple was so exceedingly short, although beautifully fine, that, having been knocked down at auction at 2d. per lb., the buyer found that it would not pay to expend the railway fare for removing it, and it was left in the docks for years. That, no doubt,

is an extreme case, but it will serve to show you how these fibres sell according to the length of staple. Not that I wish to depreciate the value of woollen yarns for a moment. All men's clothing, and cloth generally, and flannel and blankets, and things necessary to our comfort, are woollen.

On the other hand, the fibre called alpaca, or Llama, forms a fabric which is generally pronounced the *most* beautiful. The alpaca is the South American form of the camel, showing how animals, separated by one of our primeval changes of the earth, may develop in two different directions, the hair of the Oriental camel being vastly inferior.

Next to this in beauty and utility comes, I think, the hair of the Syrian goat, which Mr. Holman Hunt has delineated in "The Scapegoat;" we usually speak of it under the name of "mohair." It is quite distinct from alpaca, though often confused by name in the shops. These hairs (they are called "hair" in the market) and the long wool of the north of England, Scotland, and to some extent Iceland and Russia, possess the valuable quality called "lustre" or gloss, a character much valued; but of course we do not see it in the short wools of which clothing is made.

Now it will be evident here that these fibres which, on the average, may be called, when worked up into yarn at least, two shillings per pound, are readily adulterated with cotton, which may be called sixpence per pound, to the great deterioration of a large number of fabrics, and forming a very nice snare for the public generally. For wool, as I have shown you, contains springiness and gloss and warmth-bearing qualities, while cotton is entirely without these, and we ought all to learn to detect the presence of cotton in these fabrics. For you see at once the temptation to use it as an adulteration. To such an extent is this done, even with silk, that cotton is used, mingled with silk, to lower the price. And many a lady who thinks she buys a silk dress, gets one that is one-third cotton. The burning test at once reveals this. I advise you, when you buy your wife a silk dress, to light a lucifer match and see how it burns; whether like paper or like wool. It is worthy of observation here that silk, owing to its great value, has been adulterated in another way, namely, by the addition of sugar of lead, in the trade called "weighted;" but, fortunately for the general public, the sugar of lead burns like paper; and where a great deal of it has been introduced the whole fabric burns like paper, giving one the impression that there is no silk in it whatever.

I hardly know whether it is necessary to go into the question of jute, which is a fibre derived from a plant analogous to linen. It is, perhaps, best to think of it as a very coarse, strong linen, with all the strength, and even more length of staple than linen; and I only mention it because of the tendency to cheapen material, which has come to make it a sort of coarse substitute for the other vegetable fibres. It seems to me to have no beauty whatever; but it may be useful enough in the form of packing canvas, and employs many Dundee spinners and weavers.

To turn to the woven material. I trust we shall never lose sight of the splendid fabric of tapestry; at all events in these countries, Belgium, England, Spain, France, where we have learnt to know the beauty of it. It seems to me, beyond all others, to be a fabric which Mr. Ruskin would call "noble;" but I hesitate to say much about it because of its costliness. It is scarcely a practical question of the hour. It is more essential to consider the fabrics made in looms, which we all buy, and which are in daily use. Old tapestries had a warp of cotton or linen, well embedded in cross threads which were invariably worsted.

Next after tapestry, I suppose, we must place velvet, not for its general utility, but for the beauty of the production. When one reflects on the beauty of the velvets of Genoa and Venice, often figured and containing threads of gold and silver, it is impossible not to be conscious of the beauty of the threads from which they are made; although here again the warp was usually cotton. To-day nobody seems to be willing to buy anything but cheap imitations of them.

The velvet woven from mohair and partly wool on a cotton warp again, and known generally as Utrecht velvet, produced both in Germany and the North of France, and now by Lister, of Bradford, must not be forgotten, and though I can scarcely call it beautiful, it is undoubtedly a most useful and excellent fabric. So much is this article in request that the utmost ingenuity has been brought to bear on the production of it; and some clever fellow has found it possible to weave two pieces together, face to face, where the threads forming the velvet are automatically cut, and the one piece in the loom comes out two pieces in the hand. There is a shockingly bad edition of this article, which bears the suspicious name of "plushette," which may be best described as an admirably designed dust-trap; and, by way of keeping up the modern fashion for adulteration, velvet has also been made from jute, of which the best I can say is that it is not as nasty as you would expect. And for those who like cheap and showy rubbish, I need not remind you of velveteen as a groundwork for printed curtains. Though showy and fine in texture, it seems to me to have resulted in a fabric which is at once entirely flaccid, a quick fader, and a quick catcher of dirt. It is the most prominent instance I know of of unconscientiousness in modern trade. Plain velveteen for dresses, which is probably only wanted for ephemeral use, is admissible, and probably a useful article.

After these come damasks; and I suppose (velvet alone possibly excepted) silk damask is the most beautiful fabric made, especially when the warp and weft are both alike. The resource shown in the patterning of this fabric is beyond all praise for artistic ability; but the cost will always keep the production of them comparatively small. Now, if the surface of them be kept entirely of silk, there is no objection to a backing of worsted; and in the north of France large quantities are made of a fabric entirely silk on the face, and entirely worsted behind. I regret to say that the silk in this article is only spun silk; but there must be cheap fabrics produced for people with shallow purses, and this article (until some people, in excessive zeal for low prices, did their best to spoil it by changing the worsted at the back to cotton, and not saving a sixth of the whole price) was really, and is, for those who will demand the original article, a most excellent fabric. Buyers should insist upon the backing being of worsted.

Modern competition comes in here again to spoil a good article. The silk damask which covered the walls of an Italian palace was entirely net or thrown silk. The silk damask made for to-day's trade is nearly all cotton—cotton in the warp and partly cotton in the weft. The lucifer-match (and which of us does not carry lucifer-matches nowadays?) will detect the cotton at once.

I am disposed to place next to these a variety of Yorkshire goods woven from long-haired, springy worsted, both for beauty and utility; utility both for dress, for curtains, for wall-coverings, for summer clothing, and numberless other necessities of life. We speak of them as worsted satins, camlets, moreens, diagonals, &c., all made from long wool, and occasionally goat's hair. If to hang in fine folds is a merit in such articles (and who can doubt it?) these fabrics unquestionably carry the day over everything else. No fabric made of yarn with the flaccidity of cotton or linen can be compared with them. The only thing remotely equal to them in this respect is woollen cloth; and you at once start without the lustre.

I shall be unable, for want of time, to include questions of the loom; but I cannot, however, omit to mention another result of competition—the destroying of the *usefulness* of fabrics. Ordinary weaving is, of course, over one, under one; and all pattern weaving is a series of varieties from this, whether it be a simple twill, which is over two, under one, of the weft; or other small variations which are quite consistent with the production of a good fabric. When, however, we come to the Jacquard, the temptation is to take great liberties with this arrangement, and, roughly speaking, to go under one over ten; and the result is a poor fabric. This should never be forgotten; because, once let a fabric become loose in the construction, and its life, in reasonable condition, becomes exceedingly shortened. You will find this particularly in figured fabrics with a good deal of cotton in them and very little silk. They may be filled with gum or size to make them passably saleable while fresh from the loom, but hang such a cloth up as curtains, or make it into ladies' dresses, or hang it as wall draperies, and you have a fabric which begins to lose its integrity and becomes shabby and worthless in an incredibly short time. As an instance of what I mean, I have laid on the table a thing recommended for wall draperies. I was charged with the hanging of a room with this very article—I regret to say by an architect. I pointed out to him the worthlessness of the fabric, but he said it caused him a great deal of trouble to get even that agreed upon, and at a price so proportionately cheap. I believe we ultimately both got into trouble about it.

It is undoubtedly difficult for me to speak here, in the limited space at my command, about carpets. You know, as well as I, the beauty of an oriental carpet—not alone the costly carpets made probably at the order of a potentate whose palace was gilded, or the exquisite work done four centuries ago with silk pile (the best of which, I think, were made by refugees in Poland)—but the ordinary carpet common throughout Asia and down to the shores of the Bosphorus; distinguished, not alone for beauty of design; but almost equally for beauty of colour and for technical skill in the manufacture. The clever and skilful way in which these carpets have their pile arranged slightly on the slant, which is preserved continuously throughout the life of the carpet, places them at once, irrespective of their beautiful colouring and design, ahead of our modern productions, for the modern pile carpet has the exceedingly bad fault of its pile becoming crushed in this direction or the other, and so producing ugly places, which look as if they had been damaged; the Oriental pile, on the other hand, always slopes, however much worn it may become, in the way in which the weaver gave it its original cast. Perhaps, in the nature of things, we shall have to content ourselves with picking up the old carpets now and again for the well-to-do, a restoration of this work being, I fear, unpractical. But the drop is terrible when you come to consider the modern carpet; for instance, that of Kidderminster, which does not, I think, merit any consideration at all.

Our old friend, the Brussels carpet, may have been a good fabric twenty years ago, when its thick threads were made of good long-haired Yorkshire wool; but modern competition has reduced the thickness of the thread and the staple of the wool to such an extent that I am told that a Brussels carpet will not last *one season* in a London club. And the article is so well known, and buyers are so accustomed to it at a low price, that it is useless endeavouring to return to the old quality. To me it seems that the imitation Axminster carpet of Templeton and other makers is by far the best fabric in the market. It is made, as probably you know, of worsted chenille; the chenille being prepared beforehand, and all the colours being woven in their proper places by the Jacquard, or an equivalent machine. The chenille is woven on a cotton warp, and the backing threads, which form the body of the carpet, are either jute or coarse worsted. Now, the chenille makes a complete surface, and unless some fool gets at the backing threads with a penknife, the foot never touches anything but the pile, and nothing else is exposed to wear. So long as this condition of things holds, I do not see what is to wear them out. They may get dirty, of course, but destruction, in the ordinary sense of the phrase, as applied to the fabric, is all but impossible. But it has the very serious defect which I spoke of just now; that of the pile lying in varying directions instead of all one way; but no doubt some clever person will some day remedy this defect.

The carpet known as Wilton has, in a measure, the same qualities, though not woven of chenille, the top of the pile alone being exposed to wear, but they show every seam plainly, and entirely want that sense of breadth and compactness of surface which we expect in a carpet.

There remain, though I do not know why I should put them last, the multitude of very useful fabrics made of woollen weft, as distinguished from worsted, and more or less associated under the name of "cloth." Some of them, under the head of serge, are thoroughly good, hanging in good folds and wearing for years. The pity of it is that they have been selected to be cheapened by the introduction of a cotton warp, and little by little the deterioration of this fabric has gone on until the lower qualities are valueless. But on worsted warps they are thoroughly good.

Of cloth proper there is an enormous variety. The article (in the processes to which it is subjected) becomes very much felted, and is then a most impervious fabric. The felting may be done to a greater extent or a smaller one, as desired. For certain purposes, as, for instance, the overcoat of a driver who wants it to turn rain, it can scarcely be overdone; for draperies, curtains, grounds for embroideries, &c., it should be done comparatively slightly, so as still to exhibit its construction quite plainly. It gains, however, sufficient firmness by a very moderate

amount of felting, to fall into most excellent folds.

I am not sure whether the French army cloth (of which I have put a piece on the table) is not the best cloth I know.

And this brings me to the question of what I may call "character" in woven fibres. A proportion of people, among whom I may prominently mention architects, like to see the threads of a fabric. They feel, which is no doubt true, that there is an element of deception and humbug about a fabric whose threads are invisible, where the whole construction is hidden beneath an artificially raised nap (as in the cloth which we wear in the evening) or in a mere fuzzle like a felt, and they would like to see the construction of the thing. But the difficulty is that a still larger number of people (among whom the fair sex is prominent) like to see everything as fine as possible, and this also suits the book of the shopkeeper; for a fine looking article at the money is like good wine, it "needs no bush." But these two demands are inconsistent with each other. If the demand for a visible construction only goes the length of excluding felts and fine satins of cotton or worsted, there would be no harm done; but we have always to bear in mind that cloth, which is an excellent article, has always been for centuries made with a raised or dressed surface, and still, in spite of it, remains a most excellent fabric. The Orientals have been most successful in the production of fabrics which, while showing the construction plainly enough, still look good and handsome. And no doubt if you could all set the example of demanding such fabrics Leeds would soon provide you with home-made things with that character—a cloth which they say in the market, "shows its bones." In Italy the usual covering of a horse who brings a light cart to market is a cloth almost entirely without nap, generally of a pale scarlet; and, as facilities for intercommunication improve, no doubt the Italians will bring it to *our* market. The French army cloth which I mentioned, and of which a large pattern is before you, seems to me a happy medium; the raising of a nap being exceedingly moderate.

It is difficult to speak of the question of muslins; their uses are so various and their prices so moderate. But they have furnished us of late years with the Swiss leno curtain, which seems to me entirely abominable; and the figured muslin called Madras, of which, I take it, the principal characteristic is that it gathers dirt at an unprecedented pace. I think, if people want summer curtains of a thin material, they should be content with the muslin plain.

I have not hitherto spoken about an important article of modern industry—chintz. And it is difficult to speak of it without so many qualifying adjectives as to amount to nothing. I do not know whether any of you are acquainted with the old Indian prints of a century ago, going more or less under the name of "Palampore"; but, though on thin white cotton ground, (entirely cotton) they are so exceedingly beautiful (or were) that they must not be forgotten. The trade still continues at Cawnpore and elsewhere up to the present day, in a cheap and less desirable form, but still with much merit. They are now printed, at a low price, on rough native cotton, and, I think, gain by the use of that cotton, the whites being more ivory-like—something between the shade of dark ivory and salmon. To my mind, we have no English or French production to compare with them, and if the designs were better adapted to our modern wants, we should see this article in great demand; but the patterns are immensely large, and, as a matter of workmanship, very badly done. The old goods of this character, which I mentioned as produced a hundred years ago, were, however, far better in workmanship, and on an absolutely white ground, which, with its accompaniment of fineness and mechanical regularity, make us suspect they were sent out in the early days of John Company to be printed in India. I sent a specimen over some years ago to be examined at the school of design at Lahore, and it came back ticketed with the remark, "Lahore work; one hundred or one hundred and twenty years old; partly hand-painted." I am sorry I cannot show you an entire curtain; but on the table are little bits which formed part of one of these curtains. In the centre, at the lower part of the curtain, was a sort of ornamental hill, which was filled with birds and lions and other small fry; and from this there grew a tree which filled up the rest of the curtain as far as the borders. A most beautiful production, at once bright in colour without being the least gaudy. Of course they must have had a complete set of filling blocks (probably one hundred and fifty) to produce a single curtain.

After seeing such a fabric, one looks with contempt and pity upon our modern chintzes. I have a strong idea, however, notwithstanding these beautiful productions I speak of, that chintz printing suffers greatly from being relegated to a cheap cotton ground. I do not say, of course, that there is no use for a chintz on a cheap cotton ground, but I think a day will come when a demand for chintz (especially for use in large towns) on a worsted ground, will set in. I lay before you a piece of chintz which was taken off the foot of an old wooden bed, and which had been there ninety years, a Yorkshire fabric (moreen), and printed at Swaislands, in Kent, at the end of the last century. I think we only want some spirited person to put fine designs into chintz printing, and get the work done on a worsted ground—some William Morris of his day—to find out how much we lose by relegating chintz to a shilling a yard for bedrooms.

I believe we have very much to learn in fabrics from the Oriental nations. Apart from the question of fineness (which they can do when they wish), they have, as I have mentioned, several fabrics more or less known, under the name of "Kelim," which have a distinctly handsome coarseness, and, which, even in the eyes of the European, are not looked down upon as being therefore of low value. Our modern European manufactures are certainly entirely deficient in this class of fabric.

I lately bought a quantity of a cotton fabric, made and dyed in Damascus. It is a yard wide, and cost me 8d. per yard. Its character is what I may call a handsome coarseness, and has been much admired by competent judges.

It is to be hoped that the modern demand for adulterated fabrics may wear itself out (for dress fabrics it does not matter so much, because their use is ephemeral, and ladies may always be trusted, I think, not to buy a thoroughly bad fabric twice), and that ere long the fashion may change in favour of *un*adulterated fabrics, and especially, I hope, in favour of printing beautiful designs on worsted grounds, a material calculated to produce at a most moderate price an article of great beauty and great durability. And I think there is no difficulty in colouring on such a ground by the aid of a stencil plate, adding varied and beautiful colour to a fine design. I hope in a month's time to be able to show you a collection of stencilled designs on a worsted ground, when I will take care that all my audience shall be invited to see them.

A vote of thanks having been proposed to the author of the paper,

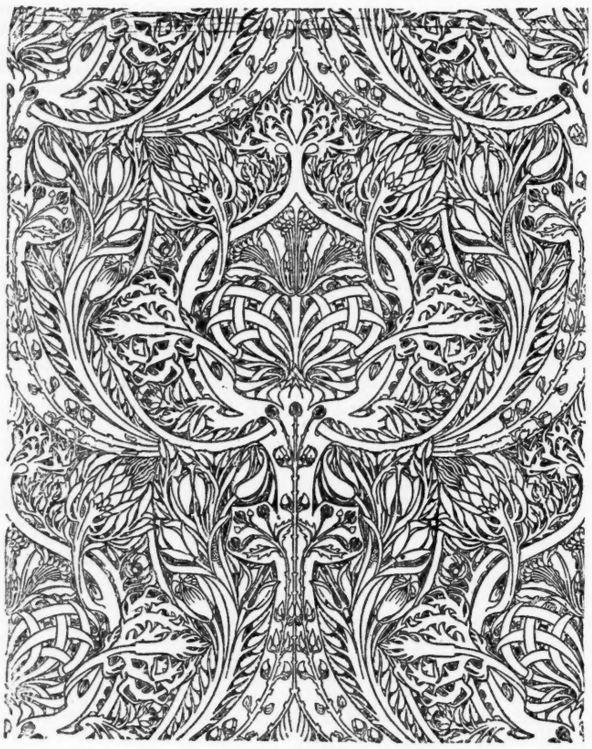
Mr. Fellowes Prynne, in seconding it, said he thought that one thing on which the Association might pride themselves this session was in having had really practical papers. Those who remembered the paper on "Stencilling," and such papers as the one read that evening, bringing the technical side of things before them in a plain and practical way, must consider them essentially useful. Also the bringing of the craftsman more amongst them than formerly would be doubly useful. The paper was a distinctly technical one, and they could not, as architects, be expected to enter so fully into the poorness and goodness of the quality of materials as the author desired them to do. The difficulty in these days was in trusting the salesmen. They were very much limited with regard to the best materials, and frequently did not know where to put their finger upon them. The subject of fabrics might be treated also in a useful way with regard to design, which he considered very lacking, for many of the modern designs one saw were poverty-stricken indeed. There were some few stock designs which want compelled them to use, but if they went to the so-called church furnishers they would see what wretched stuff was handed them, and what miserable designs, without a particle of feeling, were offered. There was little of the beautiful old stuff that could be seen at South Kensington, where specimens full of wonderful design gave chances of study to all; it was the want of good design which made them really afraid to use the materials. No one could doubt for a moment that a dossal in a church was infinitely more dignified and beautiful than many a modern reredos. A good dossal gave dignity to a church, and, with good side hangings, helped to give colour and warmth, that our churches so much needed. In domestic work it was also very useful to let in panels like tapestry, say in the case of dados. No doubt they would remember a book, brought out by Mr. Sydney Vacher, which gave some good examples and ideas for designing, taken more particularly from South Kensington work. With regard to material he must say that some with cotton at the back were very useful, as far as wearing went, in the way of hangings, and had also the advantage of cleaning well in London. There was, no doubt, an opening for stencilling work. They would do wisely to take their ideas of colour mainly from the colouring of the Orientals, which must be the main supply at present. As long as they had men they could go to, and whose guarantee they could depend upon as to materials being good, they would no doubt use fabrics much more than they had done in the past.

The President said that when he heard Mr. Heaton's quotation from the Frenchman he felt inclined to turn it upon the writer, and say: "Monsieur, it is what is wanted"—for that remark referred aptly to Mr. Heaton's paper. Practical papers of this kind were exactly what were wanted. It was one of the curiosities of the architect's profession that he was expected to know everything, and it was certainly very useful to know as much as he possibly could, and to be given short cuts to knowledge such as Mr. Heaton had put before them. The subject of hangings was, he believed, one of the things that architects greatly neglected; it was certainly one which they ought, as far as they possibly could, to acquire knowledge of, and to assert that knowledge. Some of them no doubt must have felt, when visiting a house they had planned and built, and the hangings of which they had thought out, the chagrin of finding that their ideas had been mauled by one of the shop-walkers of London. The more they could combat that the better, and the more they could induce the metropolitan tradesman to take the view of hangings which Mr. Heaton took the better it would be for their architecture and for themselves. He was very pleased to hear the remarks made about the quality of hangings, and the use of hangings in churches. He remembered when Mr. Heaton read a paper in that room a year or two before, he then referred to the matter of churches, and it was one which he considered architects should constantly keep before them. It was becoming the fashion to reserve hangings entirely for houses, and never to think of their being used in the sanctuary. That, however, was altogether a wrong fashion, for nothing could conduce more to the beauty of a church than hangings and carpets, to be used wherever and whenever they could possibly be used. It was a most excellent subject for some of the younger members to take up—the working out of the decoration of a church with carpets and hangings. He was amused by one of the points in reference to silk which Mr. Heaton had referred to. It seemed that the good silk was produced by a throwster, and the bad silk by a spinster—"ster" being the feminine of "er" in old English. A long article had appeared lately in the *Times* on a new British industry, which was to do great things for Lancashire. This industry was a fresh way of adulterating silk by means of a wood fibre. He understood that a syndicate was being formed, with a capital of 200,000*l.*, to supplant the cocoon altogether by wood fibre. He was sure they would all join in thanking Mr. Heaton for bringing this admirable paper and the examples of materials before them, and if Mr. Heaton gave them an opportunity of visiting his showrooms and allowing them to rummage amongst some of his excellent materials with his paper in their pockets, they would learn still more on the subject. He could not conclude without congratulating the Association most heartily on the character of the papers read during the session. They began exceedingly well as far as attendance went, and he hoped that in the coming session they would see a large attendance at the meetings. He would once more venture to suggest, as he had done at the opening of the session, that the younger members especially should take part in the discussions. They would find a great advantage in their future practice in being able to put a few words together, and to express their thoughts clearly.

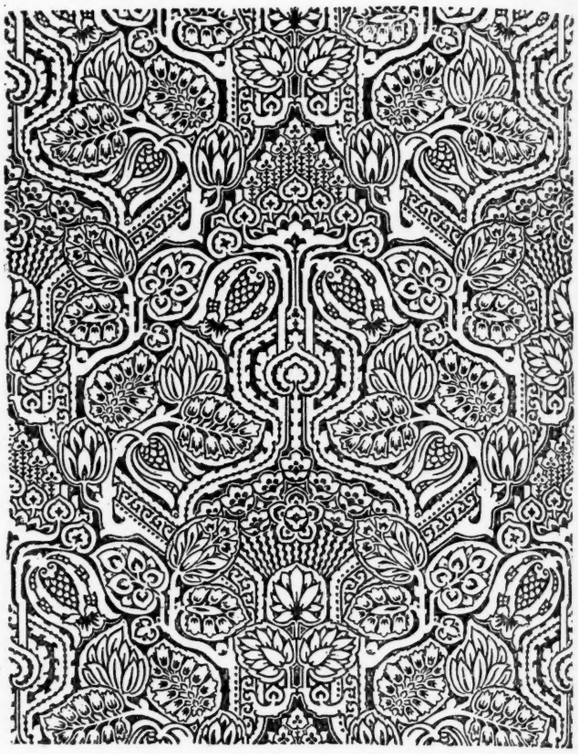
The motion was then put and very cordially received.

Mr. Heaton, in replying, said that the Kidderminster carpet made by Morris was entirely different to the trade article, the threads being of different thickness, and the yarn used of a far finer quality. With regard to the cotton warp article mentioned, the cotton was entirely on the back and the silk on the face. If they looked at his paper they would see he called that a good fabric. Where the cotton never came into view it made a splendid warp, and if the show side of it was silk it was a good article.

The proceedings then terminated.



The "Forest."



The "Warwick."

WALL PAPERS BY MESSRS. JEFFREY AND CO.

SOME NEW WALL-PAPERS.

WE have received from Messrs. Jeffrey & Co. some illustrations of designs for wall-papers, which display the general excellence of taste and design which we have become accustomed to in their work. We give reduced reproductions of three of them, of which that designed by Mr. Heywood Sumner is the most original; it is perhaps just a question whether, when we saw the paper over a whole wall, the waved horizontal bands would not become a little too marked in line, though they are considerably broken into and intercepted by the foliage. The other two, called the "Forest" and the "Warwick," have the merit of careful conventionalism and of covering the ground well; the first-named may be a little too crowded and confused in detail, but perhaps that is in keeping with its title. There are other very good ones—perhaps better than these two, but not so easily reproduced on a small scale; the "Vintage" paper, by Mr. Crane, is a new idea prettily carried out. Two of the designs, the "Valencia" and "Geneva," show a recurrence to the old type of partially naturalistic knops of foliage openly distributed on the ground; we do not like the style so much, but they are well treated in their way, the Geneva especially, which is a very graceful design.

Wall Paper: "The Oak, Ash, and Bonny Ivy Tree." Designed by Mr. Heywood Sumner.

MODERN SANITATION.

AT a meeting of the Clerks of Works' Association of Great Britain, held at the Carpenters' Hall, London-wall, on Monday evening, Mr. W. D. Scott-Moncrieff opened a discussion on "Modern Sanitation." The chair was occupied by Mr. W. S. Woolacott, the President.

The lecturer said he would refer to a few details of construction which had only recently been adopted, and the description of which, while possessing the attraction of novelty, would also afford some information that might be useful. It was well to remember that the principal object of sanitation was health; and that, subsidiary to this leading principle, there were elements of convenience and economy which must be included in every attempt to obtain perfection. It was also to be observed that all improvement in their methods should move in the direction of simplicity and efficiency, and that the system which embodied all these conditions in the highest degree would be essentially the best. Practical sanitation might be most aptly compared to a chain, on the strength of which many lives were depending, and whose weakest link was the measure of its strength. This country had been the pioneer of sanitation, and it was because the founders of the science were impressed with the importance of the issues involved that the subject had been treated with devotion and earnestness. Facts had to be collected laboriously for years before there was any public opinion formed at all on the subject of sanitation. Every branch of the subject had to be expounded by reason and illustrated by examples before people would believe that from a national standpoint the expenditure of money on sanitation was a paying investment, and, from a personal point of view, that money spent on a good new drain was better than money spent upon decoration. After a time it became a generally-accepted proposition that favourable sanitary conditions were necessary to health. Science had given other proofs of the connexion between defective sanitation and disease than those to be drawn from health statistics. He would refer only to some recent experiments which had been made by an Italian bacteriologist. There was no disease which was more connected in fact and in popular estimation with defective drainage than typhoid fever. This fever was believed to be caused by the presence of a particular bacillus, but it could hardly be maintained that even where the disease occurred in association with insanitary conditions which were of the nature of cause and effect, that the particular bacillus necessarily existed in the sewer gases that gave rise to the outbreak. Dr. Alessi had, however, put the connexion between this disease and bad sanitation beyond all doubt by experiments which he had made quite recently. The lecturer then explained the tabulated results of these experiments, which showed that animals that were immune to the influence of the typhoid bacillus, and that were ordinarily incapable of being subject to typhoid-fever, became liable to that disease and took it under the unfavourable conditions—of course exaggerated—of bad sanitation. The only conclusion was that human beings, who were naturally liable to the disease, would take it still more readily under similar circumstances. These experiments were of great importance, as proving and placing on a scientific basis what hitherto had to be accepted on data obtained from health statistics alone. Dr. Alessi had further established the fact that it was the combination in nature of the separate gases which existed in putrid emanations — or some particular gas which the chemist had not been able to trace—which was the predisposing cause of typhoid-fever. It follows from this knowledge with regard to the dangerous nature of sewer gases that it is the special business of practical sanitation to exclude all foul emanations from homes, and, if possible, from cities as well. This branch of the subject was one he himself had worked upon for many years, and was one with which his name had been more or less associated. The lecturer then referred briefly to the various types of apparatus used for this purpose in the past, and to the several kinds of tests made. He said that many years ago it occurred to him

that, whatever might be the rival merits of stoneware or iron *per se* as the best material for constructing drains, it was quite obvious that a stoneware drain, constructed in short lengths and jointed wlth cement, was not a suitable arrangement to be subjected to a severe test with water. To attempt to carry water into London from the Thames for the supply of dwellings in earthenware pipes in 2 ft. lengths, jointed with cement, would at any time have been regarded as impracticable, and yet there was no limit to the pressure which an engineer might apply to a drain. At the National Health Society's Exhibition in 1883 he urged the advantage of using cast-iron for domestic drainage, and pointed out that "the advantages of cast-iron are: (1) its superior strength and capacity to resist fracture; (2) the greater lengths in which it can be manufactured and the corresponding reduction in the number of joints; and (3) the greater facilities for making the joints secure by means of lead, sulphur, oxidised iron filings, &c. The points to be considered in adopting cast-iron are: (*a*) The available means for preserving it. (*b*) The determination of the capacity and weight of the pipes. (*c*) The character of the connections best suited to the material. (*d*) The nature of the joints. (*e*) The comparative cost." With regard to the corrosion of pipes from the outside inwards he pointed out that the experience of water companies ought to be a guide, because they laid their pipes in the ground and any device they adopted for the protection of them would, of course, be equally available if the piping were used for drainage purposes. As a matter of fact, in dry soils the corrosion was so slow that it might be neglected. Having alluded to methods of preserving pipes from oxidation, Mr. Scott-Moncrieff mentioned that in America iron, as the material for house drainage, was in many cases made compulsory by the Local Authorities. In a paper which he read before the Society of Civil and Mechanical Engineers, in February, 1889, he said:—"It has long appeared to me that what is wanted is a system by which the most perfect security may be obtained on the one hand, together with a more simple and effective method for ventilation and inspection than the one adopted in America; a combination, in fact, of the best practice in both countries." Since then he was glad to say that cast-iron in London had been looked upon as the most suitable material for drainage purposes, and was being generally adopted. The subject of sewage purification was next dwelt upon by the lecturer, who said that fortunately for the well-being of the higher animals, including man, there were vast armies of beneficent organisms butfor the existence of which life in any form would be altogether impossible. In the eloquent language of Duclaux, "they protect the living against the dead; they do more—if there are still living beings; if since the hundreds of centuries the world has been inhabited life continues, it is to them we owe it." The lecturer referred to the Massachusetts experiments dealing with the conversion of organic matter into the inorganic state, and then explained by the aid of a diagram the system of sewage disposal known as the "Cultivation Tank." The *rationale* of this system depends on the following well-recognised truths: (1) that bacteria under favourable conditions are capable of indefinite muitiplication; (2) that bacteria exist in sewage which are capable of peptonising solid organic matter, or, in other words, of preparing it, by a process comparable to that of digestion, for its final disintegration; (3) that in nature the purification of the refuse of the organic world is effected by the life history of these or similar micro-organisms. In conclusion, he said he believed that in the utilisation of these natural forces we had found a complete solution of the sewage problem.

A discussion followed, and a cordial vote of thanks to Mr. Scott-Moncrieff closed the proceedings.

PARLIAMENT-STREET IMPROVEMENTS. — The Select Committee of the House of Commons, presided over by Mr. Akers-Douglas, First Commissioner of Works, met on the 11th inst. to proceed with the Public Offices (Site) Bill. Mr. Cameron, acting for the Treasury, briefly explained the provisions of tbe Bill, which are for the acquisition of land in connexion with what is known as "the Parliament-street site" for the improvement and widening of Parliament-street and the obtaining of a site on which to build public offices. The Institution of Civil Engineers had presented a petition, but there were no appearances against the Bill. A clause was inserted for the protection of that body, and the preamble was declared proved, and the Bill ordered to be reported to the House.

A FURTHER NOTE ON THE MANCHESTER BUILDING TRADES' EXHIBITION.

WE resume our notes on this exhibition by a visit to the small gallery on the first floor, in which are located the architectural designs and drawings. It is understood that their arrangement has been directed by Mr. Smith, of the firm of Messrs. Darbyshire & Smith, who have lent several drawings, and amongst them are included some of old Manchester, which afforded authorities for the principal portions of a large model, situated on a stand in the middle of the gallery.

To the antiquary it presents a pleasant restoration of the appearance of the city as it looked in the olden time, and the contrast with the developments of modern days suggests the value of its preservation for public inspection in some museum with a permanent collection. The exhibitors are mostly Manchester architects, and include Messrs. Goldsmith & Son, with sixteen drawings of different subjects, W. W. Beaumont, three designs; Woodhouse & Willoughby, sixteen designs, mostly of technical and other schools; Heathcote & Rawle, three designs; John Holden, a design made by his firm in 1848 for reconstructing Manchester Cathedral—fortunately for the old church the design has never left dreamland; Edgar Wood, nine quaint sheets of drawings, designed with care and study; H. Oldham, W. Owen, A. H. Davies Colley, J. Brooke, E. G. Stead Booth, and J. Langham.

The non-local exhibitors comprise the names of architects hailing from Leeds, Lancaster, Bradford, London, &c., but no one from the neighbourhoods of Liverpool or Chester is represented. It will be observed that this exhibition is unique from the number of exhibits credited to each exhibitor. There are twenty-three of these displaying at least one hundred and forty drawings. This grouping together of each architect's collected works may be of interest to the professional men, but as the examples belong principally to ordinary routine work, they do not excite the general public to more than a passing glance.

One view is hung separately in a place of honour on a separate easel. It is the original water-colour drawing of the exterior of the Manchester Town Hall, which Mr. Waterhouse made for the competition, and of which he was the victor many years ago. Its style is so different from what is now the vogue forsuch purposes, that it forms an interesting contrast.

THE LONDON COUNTY COUNCIL.

THE usual weekly meeting of the London County Council was held on Tuesday in the County Hall, Spring-gardens, Sir Arthur Arnold, Chairman, presiding.

Loans.—On the recommendation of the Finance Committee, it was agreed to lend the Battersea Vestry 2,450*l.* to pay contribution for widening of bridges over railways; the Bermondsey Vestry, 7,050*l.* for paving works; the Mile End Vestry, 4,700*l.* for paving works; the St. Luke's Vestry, 5,300*l.* for the erection of certain buildings at the vestry depot; and the Vestry of St. Pancras, 15,300*l.* for electric lighting purposes.

Improvement in Limehouse.—The adjourned report of the Housing of the Working Classes Committee recommended that, subject to the Limehouse District Board submitting a satisfactory scheme in accordance with the plan put forward by them as to the remedy of the insanitary condition of King John's-court area and Limehouse-causeway area, the Council should contribute one-half of the net cost of carrying the scheme into effect, such contribution not to exceed 8,150*l.*

Mr. Campbell moved an amendment, and it was seconded, that the matter be referred back.

The amendment was, however, lost on a show of hands, and the recommendation agreed to.

Weights and Measures Office.—On the recommendation of the Public Control Committee it was agreed—

That the estimate of 7,700*l.* to be submitted by the Finance Committee for the erection of a weights and measures office on a site forming part of the Boundary-street, Bethnal-green, area, be approved and the expenditure sanctioned; and that the plans, specification, and estimates be referred to the Works Committee, with a view to the execution of the work without the intervention of a contractor; but that, in the event of that committee not being satisfied with the estimate, the Public Control Committee be authorised to invite tenders for the erection of the office.

The Council's List of Wages.—The Works Committee reported as follows, the recommendation being agreed to:—

"The Central Association of Master Builders of London having informed us that at a meeting of the master builders of London and the representatives of the Bricklayers' Society on April 30, 1896, it was decided that the rate of wages of bricklayers should be raised from 9½d. to 10d. per hour, we have to re-recommend—'That the rate of wages of bricklayers in the Council's list be altered from 9½d. to 10d. per hour.'"

Vauxhall Temporary Bridge.—The Bridges Committee reported that the order to the Works Department to commence the construction of the temporary bridge at Vauxhall was given on February 18 last, and since then fifty-two piles in piers, Nos. 1, 2, and 3 from the north shore, have been driven to the full depth, and the walings and diagonal bracings in piers Nos. 1 and 2 are well advanced. Instructions have now been given for the driving of the piling from the south shore. Some delay has occurred in the delivery of the pitch-pine piles owing to the difficulty experienced in obtaining timber of sufficient length for the continuation of the work, the greater proportion of the piles among those inspected being too full of sap for the purpose.

Proposed Greenwich Tunnel.—The report of the same Committee contained the following paragraph, but the consideration of the subject was adjourned:—

"In accordance with the instructions of the Council we are considering various schemes for crossing the river Thames. It appears to us that as the Blackwall tunnel is now approaching completion, a communication should be formed to connect Greenwich and Millwall. This question has been much discussed for many years, and various schemes have been suggested for a free crossing to be formed at this part of the river. A ferry has been in existence since 1676, and the rights have been leased and conveyed at various times to different parties, but it has never proved a success in consequence of the tolls that have been levied. We therefore considered whether a free ferry or a tunnel should be formed. Judging by the success of the Woolwich ferry, it might be thought that a ferry is the best mode of crossing the river. But we have to point out that there are great objections to a ferry, as experience has shown that it might be closed all day and sometimes for many hours by fog and ice. It therefore cannot always be relied upon by the public. The cost of maintenance is also very heavy. On the other hand, a tunnel is always open to the public in all states of the weather and therefore can be used at all times. This is a most important factor. Another reason why a tunnel should be adopted by the Council is that it is cheaper than a ferry and will not be objected to by the Thames Conservancy Board, who are opposed to ferries, as they cause an obstruction in the navigation on the river. Moreover, the soundings and dredgings to which the Council has had made, show that under compressed air there is no danger or difficulty to be apprehended by the construction of a tunnel. With these reasons guiding us, we have come to the unanimous conclusion that the Council ought to construct a foot passenger tunnel of such dimensions as would meet the requirements of the public. With that object we now submit drawings of a 12 ft. 9 in. foot-tunnel external diameter, which will give a footway of 8 ft., with a headway of 9 ft. 4½ in., in the centre, reduced to a minimum of 7 ft. 6 in. at the outsides; the cast-iron tubing would be lined inside with concrete faced with glazed tiles; and the tunnel would be lighted by electricity. Provision for ventilation would be made by placing a tube below the footway, having branch pipes leading up to the roof of the tunnel, and built in behind the face, through which the vitiated air would be exhausted by means of a fan, and a fresh air current induced. Cleansing operations would be performed when required by washing down, and provision is made for this by placing a 3-in. water-pipe below the footway, having hydrants at suitable intervals; the water thus used would be conveyed by a covered channel to a sump from which it would be pumped to the surface. It is also proposed to lay other pipes in the concrete below the footway for telephone wires, &c., the revenue from which would reduce the up-keep, and there would be space left to put in a large water-pipe if required. The shafts on each side of the river would be 32 ft. 8 in. internal finished diameter, the face being of glazed bricks. A spiral stairway, 6 ft. wide, having a rise on the inside of spiral of 1 in 5'4, and with treads a minimum width of 12 in., would be constructed. This would leave a space in the middle of 20 ft. clear diameter in which hydraulic lifts might be constructed at some future date should the necessity arise. The height of the stairway would be 43 ft. 6 in. on the north and 51 ft. on the south side, a gradient of 1 in 15 on each side leading to the horizontal portion of the tunnel in the middle of the river. We are advised that this gradient and the stairways would be so easy that the contingency of having to provide lifts is very remote. The total estimated cost of the works amounts to

65,000*l.* . . . . With regard to maintenance, we propose that electricity for lighting the tunnel should be used, and it will also be used for working the ventilating and pumping machinery. The cost of the installation and up-keep of an electric plant for such a comparatively small amount of work would be very expensive, and we have received a proposal from the London Electric Supply Corporation to lay a cable from the nearest point of the company's mains to the south end of the proposed subway for about 1,000*l.*, which would in the first instance be paid for by the Council, and to supply the current at the rate of 4d. per Board of Trade unit. We have reason to believe that the "Electric Supply Corporation" would be willing to enter into an agreement to return the 1,000*l.* within five years, or in a shorter time if it were found that private customers in any number took current from the main. We consider this proposal to be satisfactory, and to show a great economy over the result which would be obtained by putting down a special installation. It would be necessary to employ a staff of four men to attend to the lighting, pumping, cleaning, &c., and the police would be required to be on duty. . . . . In submitting this seheme to the Council we consider that it is one that should be adopted as it will meet a long-desired requirement of the people living on both sides of the river. It is economical both in its construction and maintenance, and its advantages are such as to prove it best for the purpose for which it is intended. We therefore recommend—'That the Council do apply to Parliament for power to construct a foot passenger tunnel between Greenwich and Millwall at an estimated cost of 70,500*l.*, and that the Parliamentary Committee be instructed to prepare the necessary Bill to be introduced in the session of Parliament of 1897.'"

Coroner's Court, Shoreditch.—On the recommendation of the Joint Committee on Coroners' Courts and Mortuaries, it was agreed that the estimate of £2,550, submitted by the Finance Committee for the erection of the coroner's court for the parish of Shoreditch be approved, and that the plans, specification, and estimate be referred to the Works Committee with a view to the execution of the work without the intervention of a contractor; but that in the event of that committee not being satisfied of the sufficiency of the estimate, tenders be invited for the execution of the work.

The Council adjourned after having transacted other business.

Illustrations.

MEMORIAL WINDOW TO GENERAL LEE.

THIS window was designed by Mr. Holiday, as a memorial to General Lee, to be placed in the Cathedral Church of Richmond, Virginia. The drawing is at present exhibited at the Royal Academy.

The design speaks for itself, as a design for stained glass; what is the symbolical connection, if any, between the subject selected and the career of the eminent Southern general is not so obvious, and we have no information on that point from the artist. If the suggestion is that President Lincoln's Government stands for "the Court of Pharaoh," the parallel is rather unfortunate; but that is a point we need not enter into here.

NEW LONDON AND COUNTY BANK, WIMBLEDON.

THESE new premises, which have just been opened for business, have been erected from the designs and under the supervision of Messrs. Cheston & Perkin. The premises occupy a prominent position in the High-street, directly opposite the old temporary premises of the Bank, facing the Ridgeway, and at the corner of a new road about to be formed.

The elevations facing the two roads are carried out in Ancaster stone from Mr. Lindley's quarries, and red brickwork, the stonework to the windows and doors being richly moulded, which is enhanced by the plainness of the broad stone bands between the windows on each story. The high pitched roof is covered with tiles supplied by the Coalbrookdale Company.

The Bank office, which is entered through a vestibule, is a spacious and lofty apartment, with a high-panelled American walnut dado and a panelled plaster ceiling, the whole of the internal woodwork, including the desks and fittings, being of American walnut. The waiting-room and manager's private room are conveniently placed for access by the public, the former also communicating with the private part of the Bank, and also with the private residential part of the premises, which is arranged above the Bank office with both a private entrance and trades entrance in the new side street. Clerks' luncheon and cloak-rooms and lavatory are placed in the rear of the premises.

Messrs. W. Johnson & Co., Lim., of Wandsworth Common, were the builders, and the fittings were also executed by them. Mr. G. Bird was the clerk of works. The fireproof flooring and constructional ironwork was carried out by Messrs. Mark Fawcett & Co., the mosaic paving in the Bank office by Messrs. Ebner, the stone carving by Messrs. Lonnie & Co., and the stoves and mantelpieces were supplied by Messrs. Bratt, Colbran, & Co., of Finsbury, E.C.

LIBRARY ENTRANCE, WEST HAM TECHNICAL INSTITUTE.

THIS drawing shows the entrance to what will be the Central Public Library for West Ham when completed. Tenders for the erection of the Technical Institute and Public Library have been received, and that of Messrs. Kirk & Randall, amounting to £41,000, with Portland stone dressings, has been accepted.

We gave a full account of the character of the excellent plan and design of this building in our review of the competition drawings in our issue of September 28, 1895, and illustrated the general design in our issue of October 5 of the same year. The drawing gives an enlarged view of what we referred to at the time as one of the most picturesque points in the design.

HOUSE AT PETERBOROUGH.

THIS house, which has just been built for one of the prominent citizens of Peterborough, has been completed in the manner shown in the illustration—that is to say, the main lines of the gardens surrounding the house have been planned by the architects as well as the house itself.

The site was a portion of a large level field, furnished with two or three clumps of young trees, and fenced in on three sides with fairly-grown hedges and trees. The fourth fence (on the north) was added in the shape of a lofty brick wall, supported at distances of about 20 ft. by massive buttresses, reduced at the top to square piers, and crowned with stone caps. This effectually shuts in the gardens on this side, and affords space for wall-fruit and glass-houses. The house is placed well back from the road, but leaving plenty of room for the garden between itself and the new wall. It is approached by a straight avenue which leads up to the forecourt shown on the plan. The court is enclosed on the entrance front by a low wall, and on the two sides by open oak fences on dwarf walls with brick piers at intervals, the object aimed at being to keep the gardens private without actually shutting off all view and leaving the forecourt isolated and forlorn. The same idea has been followed in laying out the gardens, which are to be divided by hedges of yew, so as to prevent the whole extent being visible at once. The main paths are kept straight and as long as possible, and they run through open arches (without doors) in the wall which divides the kitchen-garden from the pleasure-garden. This arrangement helps to blend the two divisions together, and makes the business part of the garden an extension of the ornamental part. One of the straight paths ends against the stables, which have been placed so as to come symmetrically with it, and so arranged that all the doors and windows which could be an annoyance to the garden are turned from it and face the stable-yard on the opposite side.

The house itself has a large entrance hall with a wide staircase leading from it, a good-sized drawing-room and dining-room, a morning room looking south and east, and a small smoking-room. The principal view is towards the south-west, which was a chief factor in determining the treatment of the bay windows. The two front ones are carried up to the upper floor, so as to provide a cheerful boudoir over the drawing-room. The hall is panelled in oak to a height of 8 ft. and has an ornamental ribbed ceiling; the drawing-room is panelled to a similar height in deal painted white, and has a ceiling divided into large panels by the beams of the floor, the soffits of the beams being ornamented in plaster. The same treatment is adopted in the dining-room. Most of the windows are glazed with lead lights in simple patterns, those which command anything of a view having a large central sheet. The heating throughout is by open fireplaces supplemented in the hall and larger reception-rooms by Renton Gibbs' small-bore pipes. The brickwork is of red sand bricks from Leicestershire; the stone is from the Weldon quarries, and the roof is tiled.

The illustration endeavours to give an idea of the architectural character of the work by reproducing some of the details from which it was executed, together with a bird's-eye view of the house and its immediate surroundings and a plan of the ground floor.

The contractor who carried out the work was Mr. J. C. Neal, of Kettering, and the architects were Messrs. Gotch & Saunders of the same town.

DESIGN FOR A COUNTRY HOUSE.

THIS very pleasing sketch for a country house, by Mr. Alfred Cox, is the perspective view, from the garden side, of a design which gained the Architectural Association Medal some time since, and of which we gave the plan and design at the time.* The present drawing was not included among those submitted in the competition, but is a subsequent study.

ARCHITECTURAL SOCIETIES.

EDINBURGH ARCHITECTURAL ASSOCIATION.—The annual general meeting of the Edinburgh Architectural Association was held on the 6th inst. in the Royal Institution, Princes-street—Mr. Thomas Ross, Vice-president, in the chair. Mr. T. Bonnar moved "That as ladies are invited to the meetings of the Association and take an interest in the papers and discussions, it is desirable that they should also be present at the Association's excursions; it is, therefore, moved that each member should be allowed to provide himself with two tickets in addition to his own for each excursion, such tickets to be used only by lady friends." He said ladies were invited to the meetings of the Association, and it naturally occurred to him that they ought to be allowed to go to the excursions. He thought the experiment should be tried, and he expressed the opinion that the advantage would be appreciated by ladies.—Mr. J. Morham seconded, and said the proposal would be a benefit to ladies. The Rev. Mr. Herford moved as an amendment that each member receive one ticket in addition to his own. He felt that the number must be limited on those excursions. Mr. J. Balfour Paul moved that the matter be remitted to the Council for consideration, and after some further remarks this was agreed to. Several reports regarding the work of the Association were submitted and approved of, including the report of the treasurer, Mr. J. Johnston, C.A., which stated that the membership had increased to 304, and that the finances of the Association were in a satisfactory state. The office-bearers were elected as follows for the ensuing year: — President, Dr. R. Rowand Anderson; Vice-presidents, T. Ross, J. Balfour Paul; Treasurer, J. Johnston; and Secretary, T. Fairbairn.

GLASGOW ARCHITECTURAL ASSOCIATION.—Professor Chas. Gourlay read a paper to this Association on the 5th inst. The subject, "Notes on Stresses," was very fully treated by the essayist. He took the beam as the ground-work for his remarks, and showed how beams of different descriptions were acted upon by loads of varying intensity and disposition. Undersides of beams, the essayist pointed out, should not have the corners chamfered or moulded, as this weakened the beam where strength is most required. The paper was profusely illustrated with diagrams. A vote of thanks to the lecturer terminated the proceedings.

COMPETITIONS.

LLANDRINDOD WELLS INTERMEDIATE SCHOOL.—The Governors, on the recommendation of their Assessor (Mr. S. W. Williams, of Rhayader), have appointed Mr. H. Teather, of Cardiff, as architect for the school. The design by Mr. Hampden W. Pratt, of Chancery-lane, London, was placed 2nd; that by Messrs. Wilson & Moxham, of Swansea, 3rd; and coupled with the latter a design by Messrs. O. M. Roberts & Son, of Portmadoc.

KING'S COLLEGE.—The annual dinner of Old Students of King's College, London, will be held at the Holborn Restaurant, on Monday, June 29, with Sir Benjamin Baker, President of the Institution of Civil Engineers, in the chair.

* See the *Builder* for November 28, 1891.

Books.

Lincoln's Inn Fields and the Localities Adjacent: their historical and topographical Associations. By C. W. HECKETHORN. London: Elliot Stock.

THIS eminently readable book, illustrated by Mr. A. Beaver and others, covers a wide area of ground around what the author fantastically calls "the very centre of all the land of this earth." He is at least fortunate in the opportunity of its appearance at a time when common attention is turned to the London County Council's decision to revise their scheme for the new street, and to the salutary transformation they have effected by opening the Fields'-garden to the public after a long resistance. And yet, whilst fully recognising the labour bestowed, we are constrained to say that the author makes no very notable contribution to the stock of general knowledge. His volume is similar in both scope and character to many issued during recent years, being for the most part a carefully-ordered compilation from well-known and readily-accessible works, some of which are but compilations themselves. Books of that kind can be transcribed within the walls of a well-equipped library—such as Mr. Heckethorn tells us he possesses—and, it seems, satisfy the easy, not too curious reader. But they lack the one chief distinction—the force and freshness of independent research; the spirit, so to speak, derived from investigation of original records, of early plans, surveys, and other documents not usually explored. We are quite aware that to accomplish, in the manner we indicate, an exercise of the kind chosen by the author, would prove to be a vast undertaking; still, in our opinion, it is the only way of rendering adequate justice to the theme. Mr. Heckethorn gives a long list of the chief authorities consulted, the *Builder* amongst them. We think that, inasmuch as his work ranks far higher than an ordinary guide or handbook, more precise references might frequently have been added to the text. Two interesting chapters deal with comparatively novel ground, between Sardinia and Great Queen-streets, and between the Turnstiles. In Sardinia (*olim* Duke-) street, lived Franklin—probably at No. 6, opposite the Chapel—whilst employed as a printer at Watts', on the south side of Wild-court. Franklin, we may mention, went to Watts', to see his press, thirty years later, when in England as delegate of the Pennsylvanian assembly. Some say he worked at Cox's, to whom Messrs. Wyman & Sons, printers of this journal, are successors. The mistake arises perhaps from the fact that the press Franklin used (a woodcut of it is in "The Town," by Leigh Hunt) had been long preserved in the Great Queen-street offices before its ultimate removal to the Franklin Museum, New York. Mr. Heckethorn, perhaps on Walpole's authority, assigns to this street the anecdote of the quarrel between Kneller and Dr. Radcliffe about the garden-door. Cunningham points out that the quarrel could could not have occurred there, and belongs to the Piazza, Covent Garden (whence Kneller removed to Great Queen-street) and to Bow-street, where Radcliffe lived. Amongst the illustrations is a reduced copy of a print, recently acquired by Mr. Fancourt, of Highbury, who ascribes it to Hollar, which is supposed to represent the houses of Lincoln's Inn Fields as Inigo Jones intended them to be. The view delineates forecourts, with walls, piers, and gates in front of all the houses, and verandahs to the first-floor windows. These features, we notice, are shown on the medal by Bower, struck to commemorate the burning of Sardinia and other Roman Catholic chapels in London, 1688. The author brings his particulars of passing events "up to date," but even since his book was printed the bulk-shop in Gilbert-passage, and the house bearing the Clare coat-of-arms, in Clare-market, have been demolished, together with some adjacent old tenements; Gilbert-street has been renamed; whilst scarcely more than the roadway remains of Clement's-lane as it winds down to the site of the Grange. We will remind Mr. Heckethorn that in our columns of December 8, 1883, he will find it stated that the Lincoln's Inn Chapel bell, reputedly brought from Cadiz in 1596 by Lord Essex, bears in raised letters,

"T-TH-+ Anthony Bond made-mee-1615."

Thomas Hitchcock was Treasurer that year.

A great many sketches of old buildings and nooks about the neighbourhood of Lincoln's Inn-fields are given, and they are mostly pretty well executed, though we cannot say much for the frontispiece representin the interior of Lincoln's Inn Hall, which is a very scratchy piece of work, or else has reproduced very badly. The author should have got some one to look over his occasional remarks on the architecture, which are very inaccurate sometimes. For instance, he describes Lindsey House (illustrated on page 90) as "of the Doric order," which is doubly incorrct; in the first place it is not properly to be described as of any "order" at all, it merely has some small pilasters introduced in the upper story between the windows, at much greater width than any classic order would admit of; and the pilasters are, as the drawing indicates, Ionic, and not Doric.

Roads and Pavements in France. By ALFRED PERKINS ROCKWELL, A.M., Ph.B. New York: John Wiley & Sons. London: Chapman & Hall. 1896.

THIS little book is "partly the result of personal observation by the writer, but is mainly a compilation from the standard publications of Monsieur A. Debauve, Ingénieur-en-Chef des Ponts et Chaussées in charge of the Département de l'Oise, and from the official documents of the French Government." Although nominally dealing with roads in France, it is equally applicable to the requirements of our own country. The principles upon which the construction and maintenance of good roads depend are expressed with remarkable lucidity and terseness. The various classes of construction, viz., Telford and Macadam, block-stone, asphalte, and wood, are severally dealt with, and interesting information is given as to durability and cost. A large portion of the work is devoted to the pavements of Paris, which are described in detail.

The book, while touching upon nearly every feature of road construction and maintenance, is so suggestive in character that to discuss it would entail a review of the whole subject of road engineering, which, we regret, our space will not permit. It is the most concise text-book upon the subject that has come under our notice, and we recommend it to our readers without hesitation.

The History of Local Rates in England. Five Lectures by EDWIN CANNAN. London: Longmans & Co. 1896.

ALL those who are interested either in local government or in the history of English institutions, will find this little book singularly clear and suggestive. It is outside the province of this journal to enter fully into the subject of the book, but we are bound to inform our readers of its existence and of its use. In the third lecture, for example, we have an excellent sketch of Poor Rates to 1601, in which we set the gradual growth of a voluntary system of relief which, in the reign of Elizabeth, in 1572, was finally transformed into a compulsory system by means of compulsory poor rates. It is from this point that the modern poor rates dates its existence. Again, even though the book is, in fact, no more than a sketch, there are yet many curious instances of varying systems to be found in it. Thus in the reign of James I. an Act was passed "for clearing the passage of water from London to and beyond the City of Oxford." This statute rated those inhabitants of the counties through which the Thames flowed, and "who partake in the benefit of any good work," in proportion to the benefit they receive from it. Eighteen years later, the Act was repealed, and the whole burden of improving the Thames was placed on the City of Oxford on the ground that "the principal benefit thereof will redound immediately to the University and City of Oxford." There is nothing new under the sun, and we shall find examples of so-called modern innovations in existence years ago.

Engineering Chemistry. By H. J. PHILLIPS, F.I.C., F.C.S. London: Crosby Lockwood & Son. 1896.

THIS is a practical and compact treatise which we have found in our own experience to be suggestive and useful. We are glad to find that a second edition has been called for, an opportunity which the author has wisely taken advantage of to revise and supplement the text. A large number of typical methods of analysis, based upon practical experience, are given, which should prove valuable to engineers and analysts.

On page 268 the comparative cost of petroleum oil, colza oil, and coal gas respectively is referred to, and from the figures given by Redwood, it will be seen that, taking petroleum at 1s. per gallon and coal gas at 3s. 6d. per 1,000 cubic feet, a given amount of light from the latter costs about twice as much as the former; and taking colza oil at 3s. 6d. per gallon and petroleum oil at 1s. per gallon, it will be found that petroleum has the advantage threefold for a given amount of light.

The scope of the book is wide, almost too wide for the thorough—or perhaps we should say sufficient—treatment of many of the subjects dealt with. In something less than four hundred pages we have, however, much practical information as well as analytical details respecting metals and alloys, ores and limestones, solid, liquid, and gaseous fuels, water, oils, gasworks products, disinfectants, explosives, an appendix containing many valuable tables, and last, but not least, an exhaustive index.

Chemistry for Engineers and Manufacturers. By BERTRAM BLOUNT, F.I.C., F.C.S., and A. G. BLOXAM, F.I.C., F.C.S. (Volume I., Chemistry of Engineering, Building, and Metallurgy). London: Charles Griffin & Co., Limited. 1896.

THIS volume includes the chemical principles of subjects which are of particular interest to the architect and builder, and especially the chemistry of the chief constructive materials, such as stone, brick, concrete, and the various structural metals. It forms, in fact, an admirable supplement to H. J. Phillip's "Engineering Chemistry," as it is mainly devoted to a discussion of the chemistry, in the strict sense of the word, of the various matters touched upon, rather than to methods of analysis and valuation.

A point in connexion with cements often overlooked by the inexperienced is insisted on, on page 13, and it is that a cement which has passed the ordeal of all the usual tests for fineness, weight per bushel, specific gravity, setting time, and tensile strength, is not necessarily sound. An unsound cement sometimes appears sound for weeks after it has been used, and then expands and "blows," causing injury and destruction to the work in which it has been used.

The chapter on the chemistry of steam-raising is a well-written one, which will repay perusal by all steam users. Boiler corrosion and incrustation are, within the necessary limits, very suggestively dealt with. A comparatively rare form of local corrosion of boiler plates sometimes arises from the trapping of air bubbles in slight hollows already existing, and the oxidation and deepening of these spots by successive portions of entrapped air.

The protection of structural iron from rusting is also dealt with, and the formation of a coating of ferroso-ferric oxide by the Bower-Barff process and also by immersion in a bath of melted nitre mixed with a little oxide of manganese, and likewise by electrolysis, is explained. The weak point of the processes is that the protection is only good as long as the coating is intact; when chipped the rusting of the iron seems to be more rapid than that of untreated iron.

Cyanide Processes. By E. B. WILSON, E.M. New York: Wiley & Sons. London: Chapman & Hall, Limited. 1896.

THIS is a little work devoted to a consideration of the various methods of extracting gold from its ores by means of cyanide of potassium. It is interesting chiefly to metallurgists, as being a convenient summary of what has hitherto been done in this direction. The value of the process may be gauged by the statement that in five years Messrs. MacArthur & Forrest recovered by their particular application of the process gold to the value of fourteen million dollars, which would otherwise have been irrecoverably lost.

It is an interesting observation that a pure solution of potassium cyanide will not dissolve gold to any great extent when immersed in it, but dissolves it readily when oxygen is present. Referring to the number of patents the cyanide process has given rise to, the writer observes that, in his opinion, the patent offices are more at fault in granting claims than those who make the claims and obtain the patents. It seems to us, however, that the evil would be infinitely greater if inventors had to deal with a set of Patent Office officials empowered to arbitrarily decide on the validity of a patent. The expense, friction, and sense of injustice caused by such an arrangement would be simply enormous. It must be, from every point of view, better for a would-be patentee to make his own inquiries as to the validity and originality of his invention, and then to be granted a protection which gives him, at all events, the right to challenge what he may deem to be an infringement of his rights.

Practical Trigonometry for the use of Engineers, Architects, and Surveyors. By HENRY ADAMS, M.Inst.C.E., &c. London: Whittaker & Co. 1896.

THIS is a small book not intended as a treatise on trigonometry, but as a short and compact explanation of the principle of trigonometrical measurement, coupled with examples of its practical application in surveying. Such a small book is very useful to those who require only the application of trigonometry to the ordinary problems of surveying; the author's name is sufficient guarantee as to its being reliable, and he has endeavoured, as he says in his preface, to remove the sense of "mystery" which surrounds trigonometry to almost all beginners, and to show that there is no mystery if the subject be set about in the right way. His exposition of the subject is clear and simple, more so perhaps than some larger and more detailed expositions; and his plan of defining angles as the deviations between radii of a circle tends at once to direct the student's mind to the essential character of trigonometrical calculation. The mischief of the barbarous jargon in which trigonometrical ratios are expressed, and which is the real cause of the "mystery" which the subject wears to a beginner, cannot of course be escaped now. If we were to begin formulating the science over again at the present time, we should probably do better in the way of nomenclature.

Tabulated Weights of Angle Tee and Bulb Iron and Steel. By CHAS. A. JORDAN, M.I.N.A. Fifth Edition. London: E. & F. N. Spon: New York: Spon & Chamberlain; 1896.

IN the fifth edition of this useful book of weight tables, special tables of areas and weights for Tee Bars have been added, as it was found that the radii of the angles were smaller and those of the fillets larger than the corresponding radii in Angle Bars, so that the weights for the latter, per area of section, were not strictly applicable to the former. The sectional areas for steel have been calculated in thicknesses of twentieths, fortieths, and thirty-seconds of an inch, so as to agree with the system of divisional measurements and with the rules of Lloyd's and other Registers. Various other useful tables are also added—equivalents of ordinary measurements in metrical measurement, &c. The book is of a conveniently small size, and the tables clearly arranged for reference at a glance.

TRADE CIRCULARS, &c.

MR. JOHN JONES sends us his illustrated catalogue of sanitary specialities, including his various forms of pneumatically worked stoppers for drains and pipes, his drain-testing appliances, his excellent and scientifically-designed manhole covers with a double seal, &c. His supply cistern, with a double system of syphon intended to give impetus to the flush, seems to promise admirably. All the articles illustrated in this catalogue give evidence of thought applied to the construction of sanitary appliances.——Messrs. Zadig & Co. send an illustrated catalogue of their portable railways for contractors, with steel rails and steel sleepers, for which they claim the advantage that they can be easily and expeditiously laid at any place required, the whole being supplied complete with rails, fishplates, nuts, clips, steel sleepers, &c., ready for laying down.——Messrs. Arnold Kershaw & Co. issue an illustrated list of pneumatic ventilators, inlets, air diffusers, cowls for sewers and soil-pipes, &c.——Messrs. Comyn Ching & Co. send us a description and illustration of their flush ventilator for fixing in the walls of rooms, the object being to do away with the too prominent appearance of the usual frame or beading, the border or frame of the ventilator being flat, and covered by the wall-paper, only the decorative grating of the ventilator appearing. We should ourselves prefer to see the constructional frame, but others may think differently. ——Mr. G. Power, of Aldridge, sends the description and illustration of his patent interlocking brick, in which every brick is made with a projection or stud and a corresponding hollow, on each side, the studs on the under side of one course fitting into the hollows of the one below it, and so on. No doubt this makes, as he says, a very strongly bonded wall, but we should fear it would be an expensive kind of brickwork to employ, and might prove rather too unyielding in the matter of adjustment in setting out. His self-adjusting tile appears a very good one.

Correspondence.

To the Editor of THE BUILDER.

THE ROYAL INSURANCE BUILDINGS, LIVERPOOL.

SIR,—As some expressions of dissatisfaction at the conduct of the above competition have been widely circulated, will you permit me, as one of the competitors, to state that the award was absolutely fair.

It may be unnecessary to state this were Mr. Norman Shaw alone concerned; but I know neither he nor the directors were aware of the name of the successful author, but came to a wise and just conclusion on the merits of the design.

JOHN BELCHER.

FAWCETT *v.* HOMAN & RODGERS.

SIR,—Referring to Messrs. Mark Fawcett & Co.'s letter in your issue of the 9th inst., the following is a *complete* extract from the judgment of Mr. Justice Romer taken from the shorthand writer's notes:—

"For these reasons I am of opinion that the plaintiffs' patent fails, and that the action must be dismissed. With regard to the costs, I give them to the defendants. The plaintiffs must pay the defendants their costs of the action, except so far as the defendants' costs have been increased by their raising the issue that there was no infringement. Those costs will, of course, include the particulars of objections as to prior alleged anticipations; and with regard to the plaintiffs' costs, I give the plaintiff the costs of the issue of infringement, and there will be a set-off."

We shall be obliged by your giving this insertion in your next issue. HOMAN & RODGERS.

*** We cannot publish any further letters on this subject.

The Student's Column.

CARPENTRY AND JOINERY.—XIX.

WINDOWS.

THE consideration of windows conveniently comes after that of doors. The designing of windows in relation to both the exterior and interior of a room is one of the most important duties of the architect. The window openings of a building should preserve the same character, and should, for structural reasons, be placed as far as possible from the quoins. Further, it should be remarked that where possible it is preferable to have an odd number of windows in an apartment because, if a pier is placed in the centre, it casts a shadow across the middle of the room, which is displeasing.

We may tabulate the various kinds of windows, with their frames, as executed by the joiner, as follows:—

1. Solid Frames with Casements.
2. Hollow, Boxed, or Cased Frames, with Sliding Sashes.
3. French Casement Windows.
4. Window Finishings, including Shutters.
5. Furniture and Hinges.

1. SOLID FRAMES WITH CASEMENTS.—The solid window-frame (figs. 296, 297, 298) is made similarly to that for a door, and consists of two vertical posts, a head, and a sill. Round this frame is run a rebate, into which the casement shuts; this rebate is usually placed on the outside to enable the casement to open outwards, which is the more usual way, as it forms a more effectual barrier against the admission of rain. The sill, *o s*, is generally made of oak, with its upper surface weathered to throw off the water, and throated so as to prevent the water being blown up and drawn in by capillary attraction. On the under side of the oak sill is placed a metal *water-bar*, *w b*, which prevents any rain soaking in between it and the wall.

The casement (or sash, as it is sometimes called) is framed up with rails and styles in the ordinary manner, the space thus enclosed being divided—originally because glass could not be obtained in large pieces, and since continued for supposed effect—into small squares by means of sash bars, *s b*. In casements hung at their sides, the horizontal bars should be continuous from side to side in order to effectually withstand the jar of opening and shutting. These horizontal bars are merely mortised to receive the tenons formed on the ends of the portions of the vertical bars, which are scribed as shown, fig. 308, from *a* to *b*, to fit the moulding on the horizontal bar. The joint between the bars is sometimes effected by means of a mitre. The bars are rebated, as shown, to receive the glass.

A section in isometrical projection is given in fig. 301 of a casement hung to a solid frame in such a manner as to open inwards. If any water finds its way past the sash it falls into a groove which leads it back to the outside.

Fixed Casements are those which are screwed in position and are not wanted to open.

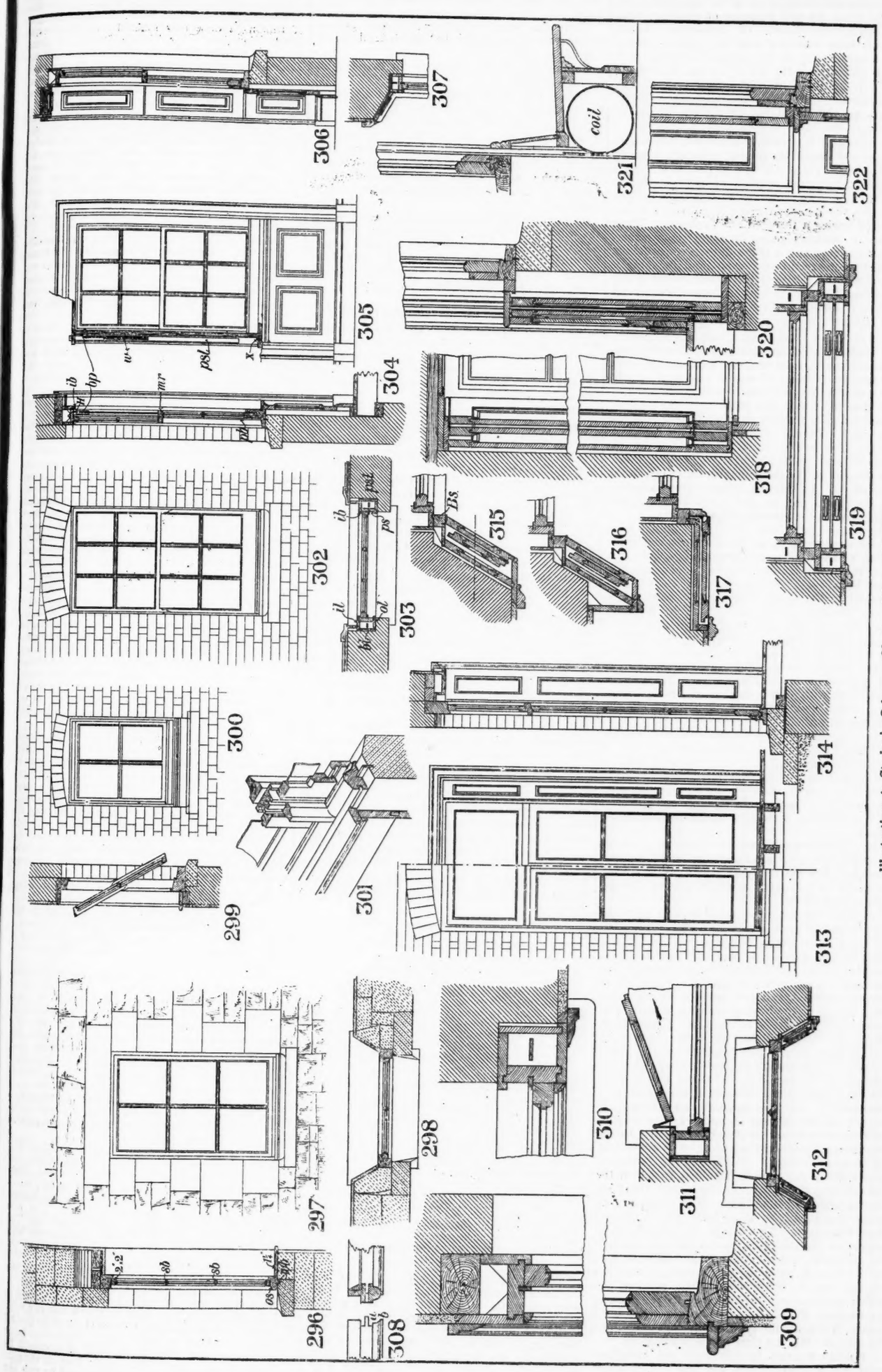
Casements Hung on Centres.—Such a casement is shown in figs. 299, 300. They are generally used in positions where they cannot easily be reached by hand, but can be opened by a cord. Pivots are fixed on the styles in their central axis, and these pivots fit into small iron sockets fixed in the frame to receive them. For the window to be opened, the upper portion is pulled inwards as that leaves less space for rain to drive in.

The method of making such a window weather-tight is by the following means:—A bead is fixed on the upper half of the outside of the frame, and on the lower half of the inside, as shown; then the casement, when shut, fits close against these, and by means of beads fixed on itself forms a continuous inside and outside bead.

2. HOLLOW, BOXED, OR CASED FRAMES, WITH SLIDING SASHES.—In this type of window the frame is made up as a hollow box or "case," made to receive the weights which counterbalance the sashes. Figs. 302, 303, 304 show such a window in plan, elevation and section, placed in a 14-in. wall, but with 9-in. window back, the finishings extending to the floor. The frame consists of the inside lining, *i l*, the back lining, *b l*, the outside lining, *o l*, and the pulley style, *p s*, so called because it carries the pulleys over which run the sash lines supporting the weights. The various parts of the boxing are grooved together as shown in the illustration. The pulley style is grooved into the head of the sash frame, *H*, and housed into the sill at the bottom, and secured by a horizontal wedge, *X*, as shown in fig. 305.

The upper and lower sashes slide in their places by means of a *parting bead*, *p b*, which is grooved into the pulley style, and housed into the oak sill. The inside bead, *i b*, is fixed with screws, so as to enable the sash to be removed when required for repairs. At the bottom of the window the inside bead should be made a few inches deep, as shown on section, in order to enable the lower sash to lift and admit air at the centre of the window without draught. The rails, where the upper and lower sashes meet, are called the meeting rails, *m r*, and the junction is formed by making them wider than the styles of the window by the width of the parting bead, and they fit tight to each other by a rebate as shown, or by being simply bevelled. The lower rail of the lower sash is made from 4 in. to 6 in. deep, and is sometimes throated to keep out the weather as shown (fig. 309). The method of hanging these sashes is as follows:—The styles of the sash have grooves taken out of their sides for a length of 6 in. or so from the top, into these the sash lines or ropes are placed, and are passed over brass axle pulleys, *b p*, fixed into the pulley styles near the top, and having weights of lead or iron, *w*, attached, which counterbalance the weight of the sashes. Instead of rope-lines, which are liable to rot or otherwise get out of order, steel tape has of late years been introduced by patentees, and has the advantage of running smoothly and not wearing out. The weights are separated in the boxed frames by means of *parting slips*, *p sl*, of wood or zinc, the upper end being passed through the head of the frame, as shown in fig. 305, and secured by a wood pin or nail. At the foot of the pulley style is formed a *pocket*, by means of which the weights are admitted, and which is covered by a flush piece, known as the *pocket piece*, the lower end being rebated and the upper rebated and undercut to the pulley style. The head of the frame is generally strengthened by blocks glued to the angle as shown.

The wall behind the arch over the window frame is carried, as shown, by wood lintels and a brick relieving arch, or, as is very generally the case in these days, a coke-breeze concrete beam is used instead. The upper end of the frame can be nailed to this, and the sides are also nailed obliquely through the inside lining to the wood bricks or slips in the reveal. The tops and sides are further secured by wedges driven between the back linings and the masonry. If the frame is built in as the work proceeds, the head should be left longer than the width enclosed by the styles, so as to form horns resting on the masonry, as already pointed out in solid door-frames. Mention should be made of the various inventions which have been made towards improving the



Illustrations to Student's Column: Chapter XIX.—Windows.

ordinary double-hung sash. In many of these the sashes are arranged so as to easily take out in the room for the purposes of cleaning, thus minimising the chance of accidents. Other patents have been on view at recent building exhibitions, such as the sashes balancing each other without weights, the upper one being made to open by itself as a casement sash at any inclination. They all deserve study as improvements on the useful but time-worn method of sliding sashes.

3. FRENCH CASEMENT WINDOWS have solid frames and casements hinged vertically, opening like a door. Figs. 312, 313, 314 show a French casement extending to the floor and becoming in fact a double door. In this case it is made to open inwards, the lower rail being fitted with a water-bar and having a throated sill as shown. These forms of windows generally admit the weather, unless extreme care is taken in their construction. It will be observed that a semi-circular sinking is run along the rebate of the frame, so that if any rain should penetrate between the casement and frame, it may immediately find its way out, and not be drawn inwards by capillary attraction.

4. WINDOW FINISHINGS (including shutters). Finishing, which include grounds, architraves, window boards, window back, &c., are the same for solid as for cased frames, so that they may be conveniently discussed under one heading. In a 9-in. wall (figs. 309, 310), the back of the window-frame generally finishes flush with the face of the plastering. The only finishing required in such a simple case is a window board, which may be moulded, and which is tongued and grooved into the oak sill in the same manner as shown in the illustration. In addition an architrave is carried up the jambs and across the head, covering the joint between the grounds and plastering.

In a 14-in. or thicker wall, jamb linings have to be employed, being grooved into the inside lining of the frame, as shown in figs. 306, 307, and the window board is widened in consequence. The linings are further secured to *backings* plugged to the wall. The window back may be either panelled, as shown, of 1½ in. framing, moulded one side and fixed to grounds at the back. Jamb linings are frequently designed to be placed on the splay, in which case they are called splayed linings, and are fixed as shown in fig. 307. The architraves are often fitted in the best work with plinth blocks, as shown in fig. 305, which forms a finish against which the skirting may abut.

Linings over 11 in. in width should be panelled, and may be executed as shown in fig. 306.

There is one point in connection with window finishings which is often neglected, and that is, to provide a proper space for the blinds; this may be effected by lowering the architrave at the head of the window, forming a space behind for the blind.

In conjunction with window finishings, shutters deserve perhaps the most important consideration, although they are not, especially in towns, used so much as formerly. Shutters are two kinds, folding and lifting.

Folding shutters are so called because they fold back in one or more leaves into the boxings left for them on the jambs of the walls. In fig. 315, shutters are shown on plan to a splayed face. A space for the blinds to roll up and down is left by means of the piece of stuff *BS*; the face of this is continued, and has tongued on to it the back linings of the boxing, which is panelled and moulded, and fixed to backings like a jamb lining, which it really is when the shutters are shut at night-time. The inside end of this lining is tongued in a ground plugged to the brickwork, and placed to receive it. This has also a rebate for the edge of the front shutter, and serves as a groundwork for the moulded architrave. In regard to the shutters themselves, they may be treated either richly or plainly, according to the architect's designs. They are usually out of stuff 1¼ in. or 1½ in. thick. The face of the shutter exposed in the day-time is moulded to match the surrounding woodwork, the back part being left square-framed or bead butt. The edges are all rebated as shown, so as to form one continuous face when open. The design of the shutters in regard to general treatment and mouldings should be carefully set out in conjunction with the side of the room in which they are situate, so that the design may be continuous. Figs. 318 and 322 show the treatment to be adopted for the opening and closing of shutters so as to clear the blind space, which should be carefully considered, and to keep the shutters clear of the window-sill.

Folding shutters in thin walls are sometimes arranged as shown in figs. 316 and 317, in which it will be seen that the boxings are blocked out beyond the face of the walls or are laid out flat along the face in order to obtain the necessary space.

There are other methods which will present themselves to the student, but which need not be referred to here.

Folding shutters may be hung in two heights for high windows.

Lifting shutters are sometimes used and have the advantage of less complication than the folding type. Figs. 319, 320, will explain their construction. It will be noticed that the shutters are of framing the whole width of the window, enclosed and hung in the same manner as a double-hung sash; lead weights being generally used instead of iron in consequence of the weight required.

During the day-time they are let down beneath the window board into a space prepared for them. The window board is hinged and opens as a flap for the purpose. The shutters are lifted by means of rings let into their upper rail and are fixed together by means of a screw connecting the two leaves.

The student must use his inventive faculties for every special requirement: as an example of such a case fig. 321 is shewn. Here a *revolving* shutter was designed to work underneath a seat which was formed in a window opening. Seats formed in this manner are always useful and are sometimes framed as cupboards.

External shutters (fig. 311) where used are formed generally of a framing, fitted in with louvre boards, and hung by means of parliament hinges, so as to clear the reveal when opened.

5. FURNITURE AND HINGES.—The upper and lower leaves of a sash are generally held together when shut by means of a sash-fastener or clip, of which there are many varieties. The lower sash should be provided with two sunk lifts fixed in the lower rail, and the upper sash with a pair of handles screwed to the underside of the meeting rail. Casements in solid frames require fastenings to secure the casements when shut or open. The commonest form is a casement-stay in iron or gun metal. This is pivoted on to the casement and provided with holes throughout its length, which fit at discretion on to a pin fixed upon the sill. There are various other kinds of casement stays which need not be described here. Casements are held in position when shut by a cock-spur fastening fitted to the casement and entering a groove in the other, which forces the two together when turned.

In French casements, what is known as the *Espagnolette* bolt is the only satisfactory fastening. It is fixed on the inside of one of the meeting styles, and consists of top and bottom bolts connected by a long rod, arranged so that by turning the handle in the centre each bolt is shut, and the two leaves brought closely to each other. Casements hung on their bottom rail can be made to fall inwards by means of a quadrant stay (so called from being a quarter of a circle), of which there are various types. They are commonly employed in hospitals and schools and in buildings generally, which are fitted with large windows.

Illustrations to Student's Column.

CHAPTER XIX.—WINDOWS.

296. Section of solid frame with casements.
297. Elevation of solid frame with casements.
298. Plan of solid frame with casements.
299. Section of casement hung on centres.
300. Elevation of casement hung on centres.
301. Casement hung to a solid frame.
302. Elevation of box-framed window with sliding sashes.
303. Plan of box-framed window with sliding sashes.
304. Section of box-framed window with sliding sashes.
305. Interior elevation of box-framed window with sliding sashes.
306. Plan of splayed jamb linings.
307. Elevation of splayed jamb linings.
308. Junction of sash bars.
309. Detail of sliding sashes in 9 in. wall.
310. Detail of sliding sashes in 9 in. wall.
311. Outside shutter.
312. Plan of French casement.
313. Elevation of French casement.
314. Section of French casement.
315. Plan of folding shutters.
316. Plan of folding shutters in a thin wall.
317. Plan of folding shutters in a thin wall.
318. Section of folding shutters (fig. 315).
319. Plan of lifting shutters.
320. Section of lifting shutters.
321. Shutter coiled under seat.
322. Section of folding shutter (fig. 315), closed.

"TROLLOPE'S BLACK LIST."—Mr. Iliff, one of the workmen mentioned in our report of this case last week, writes to say that he never worked with any one named Eves, nor was in the employ of Wright of Southall. In that case there must have been some confusion in the statements in Court, as our reporter was there and was quite clear as to the facts stated. In any case, the question is of no importance as to the main point of the case.

GENERAL BUILDING NEWS.

RICHMOND-STREET MISSION, WALWORTH.—The foundation stone has just been laid by the Duchess of Roxburgh of a new mission hall, Richmond-street, Walworth. Mr. George Baines, of Great Winchester-street, E.C., is the architect, and his designs were selected in competition. The new hall is 53ft. long by 33ft. wide, with two entrance lobbies, and staircase leading to a gallery. In addition to these there are four class-rooms and a kitchen. The whole is surmounted by an open timber roof. The main front is towards East-street, and has two bold pointed-headed doorways, moulded in stone, flanked on either side by pilasters. The inner pilasters are carried up above the roof, terminating with stone caps, giving prominence to the centre gable. The windows have pointed heads, and the gable is relieved in the centre by a large rose-light. The contract is let to Mr. T. D. Leng, Deptford, for 1,690*l.*

REBUILDING OF CARLTON MINIOTT CHURCH, YORKSHIRE.—The work of rebuilding the Parish Church at Carlton Miniott is now being carried out. Plans were prepared by Mr. Hodgson Fowler, architect, of Durham, and the work of rebuilding was entrusted to Mr. Harwood, of Manfield, Darlington.

WESLEYAN CHAPEL, CARDIFF.—A new Wesleyan Chapel has just been opened in Charles-street, Cardiff, built on the site of the edifice which was burnt down on Good Friday of last year. The architects are Messrs. J. P. Jones, Richards, & Budgen.

NEW TOWN HALL, HAMMERSMITH.—The Duke of Fife laid the foundation stone of the new Hammersmith Town Hall on the 7th inst. The design shows a Renaissance exterior, with a tower at the north end, between the public hall and the Council chamber. The main entrance to the offices is at the north end in Brook-green-road, and gives access to a square hall, with the vestry clerk's offices on the right-hand side in front, the medical officer's department on the left, and the overseers' and surveyor's departments on the east side. At the front of the south end is the entrance to the public hall on the upper floor, which occupies the whole width from front to back—76 ft. by 52 ft.—and which will accommodate 900 people. It is approached by a grand staircase from the south hall, where the cloakrooms are situated. The Council chamber is shown externally by a lower elevation than the public hall, having a separate room and *flèche*. It is 48 ft. by 30 ft., and has a deputation room adjoining. A gallery for public and Press is shown, with distinct entrance and exit. The second-floor plan provides committee rooms, artistes' rooms, and conveniences; and on the third floor are the caretaker's rooms, which make the rear position of the building higher than the front. The architect is Mr. J. H. Richardson, of Shepherd's Bush.

NEW CHURCH, GLASGOW.—A new Presbyterian church has just been opened at North Kelvinside. The church has been designed by Mr. John B. Wilson, Glasgow, and is built of Locharbriggs red free stone. The style is late Decorated, a large seven-light east window and a series of rich traceried side windows of varied arrangement, forming the principal features. The interior is seated with side and end galleries for 770 persons, but is roofed in a single span, with an open timber roof, and lined ceilings. The work has been executed by local contractors at a cost of about 5,000*l.*

HALL, KINGLASSIE, FIFE.—A new building called the Mitchell Hall is being erected at Kinglassie. The main building consists of a central hall 54 ft. by 30 ft., with convertible platform. There is also a caretaker's cottage, and the whole work is under the supervision of Mr. Robert Little, architect, Kirkcaldy.

HOSPITAL, NEWTON ABBOTT.—A new hospital at Newton Abbot is to be built. The site is situate at the back of the two Baptist Chapels in East-street. There will be a three-story central block, containing the executive portion of the establishment, and two one-story wings, each of which will accommodate twelve beds. Local limestone and Bath stone dressings will be used; hot-water pipes will heat the building throughout. Mr. S. Segar is the architect, and Mr. H. Mills the contractor.

FREE CHURCH HALL, LEVEN, FIFESHIRE.—The designs by Messrs. Swanston & Legge, architects, Kirkcaldy, have been chosen in competition for a Free Church Hall, Leven.

BAPTIST CHURCH, EASTLEIGH, HANTS.—The memorial stones have just been laid of the new Mission Baptist Church in Desborough-road, Eastleigh. The building is being erected by Mr. H. S. Rowland, Southampton, from the plans of Messrs. Lawson & Donkin, of Bournemouth. The new church is built of red bricks, with a slated roof. The ceiling is match-boarded. There is a baptistry built of white brick. A small room at the back of the pulpit is to be used as a vestry.

SCHOOLS, SHEFFIELD.—On the 4th inst. the Chairman of the Sheffield School Board (Mr. J. Newton Coombe) opened the new Board Schools at Bole Hill, which have been built at a cost of 8,793*l.* On account of the steep natural slope of the ground the site has been terraced, the upper terrace being used as a boys' playground, with an approach by means of a bridge to the upper floor of the main building, and the lower one being used by girls and

infants, the playgrounds being large enough to allow of any future additional buildings. The infants' department is arranged on the ground floor with two entrances, and contains a schoolroom and three class-rooms, two of which are separated from the school by glazed movable partitions; there is also a special class-room which may be used by either girls or infants. On the first floor is a mixed department, having separate entrances for boys and girls. and comprising a school-room and four class-rooms, two of which are separated from the main room by patent glazed partitions. Another of the class-rooms is fitted up as a cookery lecture-room with a preparation scullery adjoining. All the entrances have cloak-rooms and lavatories, and [teachers' rooms and stores are also provided. Every class-room throughout the building is arranged so that it can be entered both from the corridor and from the schoolroom. The warming is by low pressure hot water with radiators, and the ventilation has been specially provided for with steam coils in the main extract chamber. The corridors have dados of white glazed brick with coloured bands, the woodwork being pitch pine, stained two colours, and the floors of all class and schoolrooms are of concrete, covered with wood blocks. The exterior is faced with local wallstone, the style being a free Renaissance. A detached caretaker's house is also provided, as well as play-sheds and other conveniences. The general contractors were Messrs. G. Longden & Son, the warming apparatus being by Messrs. J. C. & J. S. Ellis, the wood block flooring by Mr. R. L. Lowe, and the asphalting by Mr. J. Hadfield. The architect is Mr. W. J. Hale, of Sheffield, and Messrs. Cartwright & Laidler have acted as clerks of the work.

RE-OPENING OF LAUGHTON CHURCH, GAINSBOROUGH.—The old All Saints' Church, an ancient stone building, has just been restored. The work has been carried out from the designs and under the superintendence of Messrs. Bodley & Garner, of Gray's Inn. The contractor was Mr. Franklin, of Doddington, and the painting was executed by Mr. Potwell, of Lincoln.

ABATTOIR, BARRY.—Mr. Wilcox, C.E., one of the Inspectors of the Local Government Board, held a public inquiry at the gas and water offices, Barry Dock, recently, into applications made by the Barry Urban District Council to the Local Government Board for power to borrow 6,500*l.* for the erection of a public abattoir, &c., for the district, 660*l.* for works of public and private street improvements, and 500*l.* for purposes of water supply. The clerk, Mr. Hughes, and the surveyor, Mr. J. C. Pardoe, described the application in detail, and presented the necessary plans of the proposed new works.

VILLAGE HALL, ALBURY, SURREY.—At a meeting of the Albury Parish Council recently, the Chairman submitted for inspection the plans of the new Village Hall, which had been prepared by Mr. Reavell, the Duke of Northumberland's architect at Alnwick Castle. The plans provide a hall for entertainments and public meetings which would accommodate nearly 300 people, also vestibule and lobbies, a village library, a Council-room, and, in the basement, a kitchen,. Folding-doors divide the council-room from the library, so that these rooms can be used as one large refreshment-room when required.

RESTORATION OF THE PARISH CHURCH, SHERE, SURREY.—The works of restoring the decayed portion of the ancient parish church of Shere, and the addition of various improvements, have now been completed, and the new portions of the building were recently dedicated by the Bishop of Winchester. The tower has been almost entirely reshingled, and a new bell frame has been put in. In addition to the new bells, and the rehanging of the old, a new chiming apparatus has been put in. Owing to the dilapidated state of the belfry, the bells have for seventy or eighty years past been rung from the floor of the church, but this has now been remedied. The work in the belfry, which has cost about 240*l.*, has been executed by Messrs. Mears & Stainbank, of the Whitechapel Foundry. The chancel, which was in a very unsatisfactory state, has been refloored and improved in other ways. The seats in the church west of the pulpit have been lowered, and the doors removed, and the pulpit itself has also been lowered, while the font has been moved nearer to the west door. A new vestry for the clergy and choir has been erected at the north-west corner of the church, and a new heating apparatus has been provided. The north transept, formerly screened off and used as a vestry, has now been thrown into the church. The work of restoration was carried out by Messrs. W. & G. King, of Abinger, from designs by Mr. Weatherley.

BOARD SCHOOLS, TUNSTALL. — New Board schools have been erected in High-street, Tunstall. The school buildings are two stories high, and give accommodation on the ground floor for 330 infants, and on the upper floor for 460 boys and girls. The upper story will be used for the present as a mixed department. A portion of the site has been let off until such time as a new infant department may be wanted. The principal frontage is to High-street, and is two stories in height. It is faced with red pressed bricks and terra-cotta dressings. A tile roof and a ventilating turret complete the design. The classroom principle is adopted in the arrangements of the schools, and sliding partitions are used. The upper floor is of fire-proof construction, and also the staircases. Ample cloak-rooms and lavatory accommodation and teachers rooms are provided to each department. The entire building will be heated with hot water, supplemented by open fire-places. The interior walls have glazed tiled dadoes and plastered above, and all the woodwork will be stained and varnished. Covered playgrounds are provided under a portion of the main building, and also good open playgrounds with asphalted surface, the usual latrine blocks being arranged for. A caretaker's house adjoins Woodland-street. The general contractors are Messrs. Yorke & Goodwin, of Tunstall, whose contract was 6,900*l.* Messrs. Truswell & Son (Newcastle), have done the heating; Mr. W. Durose, wrought-iron fencing; Mr. W. Sier has been the clerk of the works; and the whole of the work has been under the direction of the Architect to the Board, Mr. A. R. Wood, of Tunstall.

SYNAGOGUE, CARDIFF.—The foundation and corner stones of the new synagogue for Cardiff, which is being built in Cathedral-road, were recently laid. The structure will accommodate 241 persons on the ground floor,'and 158 persons in the gallery, but provision has been made for extending the building, when required, so that it may accommodate a further 191 persons on the ground floor, and a further 166 persons in the gallery; and space has been reserved at the rear of the site for erecting, in the future, class-rooms and residences for the minister, reader, and beadle. A feature of the plan will be the arrangement whereby the apse, containing the Ark, will be placed at the same end of the building as the entrance, this being the only method of securing an eastward aspect for the Ark. Another detail will be the grouping of reading desk and pulpit at the same end of the building as the Ark. The apse will be covered by a panelled half-dome. The Ark will be semi-circular on plan, and super-imposed by a half-domical roof, with a low-level clearstory over same. The building will be supplied with four distinct exits. The external elevations have been dictated by the form of plan. The main façade next Cathedral-road will consist of a projecting porch, super-imposed by the apse, at the rear of which will rise the gable of the nave. On either side of the porch will be the two octagonal towers containing the staircases, connected to the same by low-level structures, which will contain also the cloak-rooms. The octagonal towers will have domical roofs, and the apse a half-domical roof. The side elevations comprise the two-storied aisles, rising above which are the semi-circular clearstories of the nave. The whole of the elevations are being carried out in Forest of Dean stone, with Bath stone dressings, the Romanesque style having been selected for the work. This synagogue has been designed by Mr. Delissa Joseph, of London, and the contract has been placed with Mr. Wm. Lissaman, jun., of Cardiff, at 5,164*l.*

CONGREGATIONAL CHURCH, DARTMOUTH.—A new Congregational church has been erected at Dartmouth. The walls are of dressed limestone on wide concrete foundations, and the gables are high pitched and finished with moulded Bath stone copings and pinnacles and carvel finials and apex. The principal entrance is by a porch at the east end, but a separate entrance is provided for access to the gallery. There is a third entrance on the south side, where the vestry is situated. The church consists of nave, 58 ft. 6 in. by 38 ft., with a recessed organ chamber having an arched opening at the west end. The windows are of moulded Bath stone. Those on the east are cusped and traceried, and all are filled in with tinted cathedral glass in ornamental lead lights. The dressings of the doors and the groins and cappings of the buttresses are of moulded Bath-stone. Internally, the walls have dado boarding to the height of 4 ft. The remainder is plastered. The roof is framed with single span, and the total interior height to the apex is 48 ft. The ridge of the roof is 51 ft. from the ground, and in the middle contains a foul air extracting turret, surmounted by a vane rising 76 ft. from the ground. The roof is covered with Welsh slate. The floors are kept 2 ft. above the new ground line, and the steps to the entrance are of worked granite. The platform, which is at the west end, is enclosed by moulded rails on ornamental iron standards, while it will include an oak rostrum. Behind it is the organ loft. On each side are the choir seats, which are raised 2 ft. from the floor level. The general seating, which faces the rostrum, is of pitchpine. At the east end a gallery is placed, carried upon moulded pitchpine beams and supported on ornamental standards. The total sitting accommodation provided, including the gallery, is for about 400 persons. The plumbing has been carried out by Mr. G. E. Bates, and the carving of the lettering, &c., by Mr. Delafield, Paignton. The main contractor was Mr. R. T. Pillar, Dartmouth, and the architect of the building is Mr. E. H. Back, Dartmouth.

BOARD SCHOOL, GORTON, LANCASHIRE.—The Thomas-street School, which is the thirtieth erected by the Manchester School Board, but the first Board school in Gorton, was opened on the 24th ult. The work of building the school has been carried out by Messrs. William Brown & Son, Salford, from the designs and under the supervision of Messrs. Royle & Bennett, Manchester. The building will accommodate 1,270 children, namely, 400 infants and 870 boys and girls (mixed). The principal front is to Thomas-street, and is set back four yards from the building line, and the playgrounds and outbuildings are placed at the rear. A caretaker's house is erected at the north-eastern corner of the girls' playground. The school is planned on the central hall principle. The various classrooms are entered direct from the central halls—one on each side of the two floors,—and there are separate entrances for boys, for infant boys, for girls, and for infant girls, two at either end of the building. The staircases extend from the basement to the upper floor. In the basement is space for a manual instruction room, 48 ft. by 25 ft., with a storeroom, a cookery classroom, together with kitchen and cellars. A lift is placed for the conveyance of fuel to the various rooms. All these rooms have a clear height of 12 ft. 8 in. The infants' department is on the ground-floor, and there is also on this floor provision for 240 children from the lower standards of the mixed school, comprising together a central hall 115 ft. by 30 ft., and nine classrooms. Two cloakrooms and two teachers'-rooms are entered from the main corridor, which give access from the entrances to the central halls. The whole of these rooms have a clear height of 15 ft. The mixed department is on the upper floor, the accommodation of which includes a central hall 109 ft. by 30 ft., and nine classrooms, with cloakrooms and teachers'-rooms, as on the ground-floor. The central hall on this floor is 23 ft. high, and the remaining rooms 14 ft. 6 in. in height.

BOARD SCHOOL, EASTLEIGH, HANTS.—The foundation stone of the new Boys' School, in the Chamberlayne-road, Eastleigh, has just been laid. The school, which is being erected by Mr. T. Rashley, of Lymington, from the designs of Messrs. W. H. Mitchell, Son, and Gutteridge, is of the central-hall type. The new school will have a classroom for each class of sixty boys, entered and overlooked from the large central hall, which, in its turn, will be entered from two points to avoid overcrowding. Each entrance is to be from a porch into a short, broad corridor, passing, on its way to the hall, a lavatory and cloakroom. The hall is 80 ft. long, 30 ft. wide, and 25 ft. high at the centre, and 16 ft. at the side. Ten classrooms surround it on three sides, and the fourth side, facing south, is left open for light and brightness, the lighting of the hall being supplemented by dormer windows in the roof, and glazed suspension screens between the hall and classrooms. Each classroom is to be lighted from the left by large gable-end windows, and will be nearly square. A private room for the head master will be provided, and also a large room for the general staff, together with indoor lavatory and cloakroom accommodation. The exterior will be faced with red brickwork. Accommodation for 580 children is provided in the classrooms. The school will be heated on the low-pressure hot-water system, from a boiler in the basement, with radiators in the classrooms, halls, cloakrooms, and corridors, fresh air inlet valves being arranged for in connection with these. Extracting flues for foul air are also provided for all parts of the building. The cloakroom, lavatory, and corridor floors will be of asphalte, and all others of wood blocks. The playground will be enclosed by 6 ft. boundary walls. The playground will be tar paved, and provided with large covered play-yard, and the usual offices.

GIRLS' SCHOOL, BOSTON.—The new middle-class school for girls, at Boston, was opened on the 13th inst. The building supplies the place of the one founded in 1852, and recently condemned by the Education Department. The new building is planned with a view to extensions being made without interfering with the present arrangements. It is designed in the Elizabethan style, and constructed of red bricks with dressings of concrete masonry (an artificial stone) manufactured by Messrs. Fambrini & Daniels, Lincoln. The interior walls are faced with red bricks with a painted dado, the walls above the dado being distempered a silvery grey tint with Messrs. Morse's & Co.'s patent calcarium washable distemper. The woodwork on the interior is stained and varnished. The water-closets are glazed earthenware with automatic flushing arrangement. The lavatory basins and water-closets are the manufacture of Messrs. Adams & Co., of Leeds. Fresh air is admitted into the rooms by inlet ventilators placed in the walls, and the vitiated air extracted by automatic air-extracting ventilators fixed on the roofs. The inlet ventilators and the automatic air-extracting ventilators are the manufacture of Mr. F. W. Barker, London. The school will be heated by open fireplaces. The grates have been designed by the architect, Mr. James Rowell, Architect to the Boston School Board. The contractor for the building is Mr. H. W. Parker, Boston.

SANITARY AND ENGINEERING NEWS

SEWERAGE, WALSALL DISTRICT.—In connexion with the recent competition for a scheme of sewerage and sewage disposal for Pelsall and Rushall, in the district of the Walsall Rural District Council, Mr. Horsfall, of Leeds, the assessor appointed by the Council to consider the schemes

sent in, has awarded the first premium to Mr. J. E. Willcox, C.E., of Birmingham, the second premium being obtained by Mr. R. A. Swarbrick, of Wimbledon. Mr. Willcox has been appointed engineer for the scheme, with instructions to at once complete plans for the Local Government Board.

RESERVOIR, BURY, LANCASHIRE.—The opening of the Clough Bottom Reservoir, which has been constructed by the Bury Borough Council, took place recently. The reservoir is situated among the hills about midway between Bacup and Burnley. It has a top water area of 32 acres, and has a capacity of 202,000,000 gallons. The natural gathering ground to the reservoir is 421 acres, which is augmented by the Catchwater gathering ground of 315 acres, making altogether 736 acres. The compensation water to be daily given to the stream below the reservoir is 540,000 gallons. In addition to the compensation water, the reservoir is capable of giving a supply of 25 gallons per head to a population of 30,000 for 157 days, on the assumption that no rain falls during that period. The whole of the works have been carried out under the supervision of Mr. J. Cartwright, the Borough Surveyor, and have cost, exclusive of land, 77,500*l.*

STOCKPORT WATER SUPPLY.—An addition has just been made to the resources of the Stockport District Waterworks Company. The company at present have two reservoirs at Lyme Park, Disley, from which they get about 1¼ million gallons per day, and from the Manchester Corporation they obtain, viâ Denton, another million gallons. In addition to these two sources of supply the company have had for some thirty years a bore-well at Wilmslow, from which they have been getting about 150,000 gallons a day. This bore, which goes down about 180 ft., is now superseded by a deeper bore, sunk close by to a depth of over 600 ft., and which is expected to yield about a million gallons in the twenty-four hours. The work in connexion with the new supply has been executed by Messrs. E. Timmins & Sons, hydraulic engineers, Runcorn. It was started in May, 1894, and the boring and lining of the shaft was completed in November of the same year. The upper portion of the shaft consists of a well, 9 ft. in diameter and 21 ft. deep, and lined with 14 in. brickwork. From the bottom of the brick well, which has a thick concrete floor, the bore-hole goes down 104 ft., at a diameter of 28 in. This part of it is lined with steel, to keep out surface water. From this point the shaft, unlined, goes down 477 ft. through the sandstone, the diameter of this last section being 14 in. The lift pump was made by Messrs. Timmins, and the compound tandem engine to drive it comes from the works of Messrs. Marshall, at Gainsborough. There is practically no storage accommodation at the works, and the water will be driven into the supply pipes almost as it comes up from the bore. Mr. T. Molyneux is the engineer of the Company.

RESERVOIR, SWANSEA.—A Local Government Board inquiry was held at Swansea on the 8th inst. into an application from the Corporation to borrow 14,954*l.* for a water-service reservoir at St. Thomas, and the extension of water mains, and 3,542*l.* for street improvements at Neath-road, Landore; Gorse-lane, Mount Pleasant; The Graig, &c. Mr. Willcox, C.E., was the commissioner.

NORTHTAWTON WATER SCHEME, DEVONSHIRE.—A meeting of the ratepayers was held recently to take into consideration the proposed new water scheme. Mr. H. Geen, the engineer for the proposed work, explained his plans, showing that the main would be extended as far as the factory, also in Barton-street and Exeter-street. The new reservoir would hold 300,000 gallons. He estimated the cost of the same at about 1,000*l.*, and for the extension of the mains and other causes it would take about a total sum of 2,500*l.*

BRIDGE, BRIDGE SOLLARS, HEREFORDSHIRE.—A new bridge, situated about 100 yards below the old Bridge Sollars ford and two miles above Canon Bridge, is entirely of iron, resting at either end on stone abutments, and supported in the middle by two pairs of cylindrical columns, the lattice girders and superstructure thus forming three spans. The distance between the abutments is 188 ft., the spans between the cylinders and abutments 61 ft., and the central span 64 ft. The iron columns are 4 ft. 6 in. in diameter, weigh about fifteen tons each, are sunk into the bed of the river to the depth of 4 ft. 6 in., and are filled with cement concrete. These are topped with ornamental stone caps, and the whole surmounted by the superstructure in the shape of the roadway and the lattice-work sides, the latter being 4 ft. 6 in. deep. The height of the girders, taking the under side, from the bed of the river, is 29 ft. The width of the roadway will be 15 ft. Each pair of the columns is tied with braces. The stone for the abutments comes from the Foxley estate, out of the Darkhill quarry, and the cap-stones, copings, and string-courses are of Forest of Dean stone. The joint engineers engaged are Mr. Stephen Williams, County Surveyor for Radnorshire, and Mr. R. L. Bamford, of Hereford, the latter being the resident engineer, superintending the work. The contractors are: Mr. John Preece, of Marden, for the approaches, the abutments, and fixing the cylinders; and the Horsehay Company, Shropshire, for the superstructure, Mr. Salt being the foreman of earthwork and masonry, and Mr. Hancocks foreman erector.

NEW PIER AND LANDING STAGE, BANGOR.—A new pier and landing-stage for accommodating the ferry and steamer traffic in the Menai Straits at Bangor has just been opened. The pier is 1,550 ft. long and 24 ft. wide, and is constructed of iron screw piles and steel girders which carry the timber deck; there are eight bays, upon which are built ornamental kiosks, and the head is increased in width to allow ample room for promenading. The landing-stage at the end of the pier consists of floating pontoons approached from the pier by a bow-string girder bridge. The works—which have cost about 20,000*l.*—were designed by Mr. John J. Webster, M.Inst.C.E., of Westminster, Mr. Alfred Thorne being the contractor.

FOREIGN.

FRANCE.—The competition for the two palaces which are to replace the Palais de l'Industrie has already 210 names on the list of competitors, amongst them being several very eminent architects.——A portion of some fortifications has just been discovered at the junction of the Rue Clovis and the Rue Cardinal Lemoine; it evidently formed part of line of defence of Philippe Auguste. It will now be preserved, and be surrounded by a square planted with trees. —— M. Falguière has been commissioned to produce a monument in memory of Ambroise Thomas, the composer. —— The work of opening out the Rue Reaumur is being rapidly carried on, and in a few days the public will be able to pass between the Rue d'Aboukir and the Square du Temple. By this means the building containing the library of the *Arts et Métiers* will be better seen. The Rue Beaubourg is also to be altered to improve the communication between the Rue Turbigo and the Place de l'Hôtel de Ville.——There is to be a steam tram between the Palace of Fontainebleau and the station in the town. It will probably be of great service to the numerous tourists who are constantly visiting the Palace.——A new church is being built at Saint Cyr l'Ecole, and it is expected that it will be finished in October.——The Commission appointed by M. Méline (at present President of the Council of Ministers) to examine the project of constructing a canal from Marseilles to the Rhone has unanimously decided in favour of it. The canal, which will be 54 kilomètres long, will begin at the extreme north of the port of Marseilles, and join the Rhone at Bras Mort, about 10 kilomètres above Saint Louis. It will go through the Rove Mountains, by the side of the étang de Berre, and through les Martigues. It will carry on the sea canal of the port de Bouc and also that from Arles to Bouc. The cost of this work is estimated at eighty millions of francs, and it will take eight years to accomplish it.——A national and Colonial exhibition has been opened at Rouen, and is to remain open for five months. Among its curiosities is a partial restoration of "Old Rouen" in the sixteenth and seventeenth centuries.

NEW YORK.—Mr. Daniel C. French has been selected by the Municipal Art Society, of New York, to design and execute the memorial to the late Richard M. Hunt, which is to be erected in or near the Central Park. Just what form the memorial will take is uncertain, and Mr. French, who will be assisted by some architect of reputation, is to be left free to make his own suggestions.—*American Architect.*

ST. PAUL, MINN.—The Department of Public Works of St. Paul, Minn., has recently inaugurated a new system in cleaning its asphalt pavements. The contract for sweeping each street by hand is let directly to the labourer who is to do the work, thus eliminating the contractor and his overseer. The bidder must furnish himself with a push-cart and scraper, costing about 20 dols., which he is able to do under prevailing prices. The contract for hauling off the sweeping is let to one contractor. The work is done under the supervision of the City Engineer, and the right is reserved to rescind any contract in case of poor work, but the bidders are not required to give bonds. The asphalt pavements of the city are thus divided among thirteen labourers, who each has from 20,000 to 50,000 square yards of paving to look after, according to the nature of the traffic. Each of these thirteen contracts will keep three or four labourers busy ten hours a day.——The Common Council of St. Paul last fall made a sweeping reduction in the salaries of their city officials. The officials concerned united in making a test case in the name of City Engineer L. W. Rundlett to decide whether the Common Council had the right to reduce a salary fixed by law. The Supreme Court of Minnesota has decided that the Common Council had not the right, and that the resolution ordering the reduction in salary is void.—*Engineering Record.*

AUSTRALIA.—The following particulars as to architectural work in the Australian Colonies during the past year are given in the "Year-book of Australia." The following works, amongst others of minor importance, were completed during the year, or are now in course of erection under the direction of the Government Architect of New South Wales, at a total expenditure for the year of 181,714*l.* This total contrasts with that of last year (250,964*l.*) unfavourably. Additions and alterations to the Government Printing Office, comprising two stories and remodelling of interior at a cost of 12,000*l.* Additions to the Supreme Court: red brick and stone treated in free Classic, and affording court-room, four suites of judges' chambers, jury, witness, legal, and judges' consultations rooms, and gallery for auditors. Cost, including ventilation, 10,000*l.* Several other works, consisting of alterations and additions, and the erection of a lock-up at Marrickville, with stone front, treated in the Byzantine style, complete the record of operations undertaken by the Department in Sydney. The Hospital for the Insane, near Goulburn, is in course of erection on a site having a gentle fall to the Wollondilly River, and an area of about 750 acres. The buildings when completed will accommodate about 650 patients, with suitable quarters for attendants and other officials, the necessary administrative buildings, kitchen, &c., and the estimated cost for the work complete is 150,000*l.* The buildings are of local bricks, relieved by dressings of Bundanoon stone, and will be roofed with green slates. The style of architecture is English Domestic. The buildings, with workshop and laundry blocks, are completed and occupied, and with doctor's house, lodges, and cottages have cost about 13,000*l.* The buildings at present in course of construction will be completed this year at a cost of 50,000*l.* They comprise administration building containing offices for medical and assistant superintendents, visitors' rooms, and dormitories for attendants on night duty, also billiard-room and library, residences for matron and assistant medical officers, &c. Amongst them is a mortuary; and the greater portion of the drainage scheme is being carried out. The Government are voting 30,000*l.* per annum for the erection of the asylum, and when the buildings now in progress are completed others will be started. At West Maitland there has been erected a Court house of brown brick and stone, at a total cost of 12,000*l.* A Land and Works Office has been erected in East Maitland. It is of red brick with stone dressings, and contains the necessary accommodation for the officers of both departments, and cost 4,600*l.* In Sydney proper there have been erected during the year a block of offices in the centre of the city from designs furnished by Mr. H. S. Thompson, a similar block from designs by Mr. M. B. Halligan, and two warehouses. The largest contract was for a wool store at Ultimo, where Mr. H. C. Kent has succeeded in adorning a wool warehouse with a very pleasant character. The new Trades Hall had another portion of the original design completed during the year, and the bold treatment of Italian favoured by the architect is at least original. The new buildings in Pitt-street, of the Mutual Life Insurance Company of New York, were noted fully last year, and the company took possession in September last. The total cost of the building, with its valuable site, was about 200,000*l.* The public office of the company is a magnificent chamber on the first floor, embracing the entire frontage to Pitt-street, access being obtained through the principal entrance in Martin-place. On the mezzanine floor is located the editorial and publishing department of the *Australasian Budget*, the organ of the company in Australasia. There have been several suburban churches erected during the year, among them a Presbyterian Church at Rupertswood, another at Springwood, and a Roman Catholic Church at Ashfield at a cost of 4,000*l.*, and another at Concord. During the year building operations in the southern colonies have been almost at a standstill, and even the various Public Works Departments cannot report anything of sufficient interest for a yearly review. In Queensland, with the exception of new schools, chiefly for country districts, the energies of Government officials have been centred upon repairs and additions to existing structures, and a similar state of things prevails in Victoria. In South Australia the Superintendent of Public Buildings reports that his Department did not carry out any works of any important character. From Western Australia, however, comes cheerier news, and amongst the largest works carried out by the Public Works Department are a school at Perth with accommodation for 900 children, at a cost of £10,450; markets and cold storage provision at a cost of 12,400*l.*, and schools, asylums, police stations, post-offices, &c. The expenditure by this Department, which includes the construction of engineering projects, amounted for the year to 160,000*l.* In the city of Adelaide the official building surveyor, in his report for the year, states that the total value of building improvement amounted to 74,598*l.*, being 13,265*l.* more than for the preceding year, and in excess of that of any year since 1888.

MISCELLANEOUS.

EXTENSION OF ELECTRIC LIGHTING, ABERDEEN.—The Town Council has agreed to extend the electric lighting buildings at the Corporation Gas-works, Cotton-street, at a cost of 4,500*l.*; to provide two new boilers, with water-heater and feed-pumps, at a cost of 3,000*l.*; to lay electric mains round Golden-square, and to extend the main in George-street, at a cost of 580*l.* The work will be carried out under the charge of the Corporation gas manager and the electric lighting superintendent, Messrs. A. Smith and A Blackman.

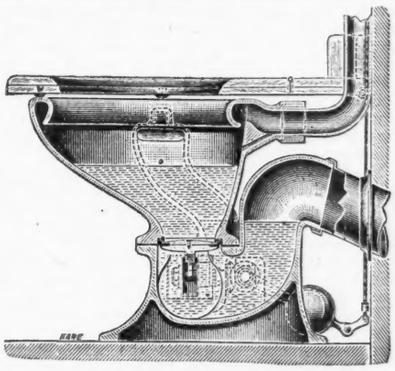
PETERBOROUGH AND THE ELECTRIC LIGHT.—Mr. F. H. Tulloch, Inspector of the Local Government Board, held an inquiry at Peterborough recently with regard to the application of the Peterborough Town Council for sanction to borrow 20,000*l.* for electric lighting works. Professor Fleming described a scheme, and said there would be no difficulty in supplying the whole borough.—Mr. Capell, who appeared for the Great Northern Railway Company, said that while his Company would be unwilling to oppose any scheme for the benefit of the community at large, yet they would take no part in this matter, nor would they use the light.

GATESHEAD CORPORATION AND ELECTRIC LIGHTING.—A Newcastle firm of electrical engineers having applied to the Gateshead Corporation for powers to lay mains, to supply the borough with that mode of lighting, the Parliamentary Committee of the Town Council decided to ascertain what success had attended the municipalisation of the monopoly by other local authorities, with the view of keeping it under public control in Gateshead. A report containing the information received has been issued by Mr. James Bower, the Borough Engineer. In it he states that out of thirty-two cities and towns from which information has been supplied, sixteen have the gas works in the hands of the Council. The electric light is also supplied (or steps are being taken in that direction) by the Corporations of sixteen towns or cities, and in only three (Newcastle, Birmingham, and Bournemouth) has a private Company been allowed to take the control of the monopoly.

LOCAL GOVERNMENT INQUIRIES IN MANCHESTER.—Colonel John Ord Hasted, Inspector of the Local Government Board, held an inquiry at the Town Hall, Manchester, on the 5th inst., into an application by the Manchester Corporation for power to borrow 55,000*l.* for the execution of works on the Chat Moss estate. Mr. Thomas Hudson, deputy Town Clerk, appeared on behalf of the Corporation. Mr. John Richards, Chairman of the Cleansing Committee of the Corporation, gave details of the works which are considered necessary for treating and disposing of the refuse sent from the city to Chat Moss. The chief item in the 55,000*l.* is a sum of 21,500*l.* for the erection of sixteen new homesteads to replace certain houses which are at present in a very dilapidated condition, and for the restoration of such of the existing houses as may be considered worth being dealt with in this way. Those houses are to be tenanted by labourers on the estate. Another item is 8,000*l.* for a light railway which is to be carried all over the estate and down to the dock which it is proposed to construct at Boysnope on the Ship Canal, under an agreement which has been made with the Manchester Ship Canal Company. The other works include a light portable railroad; a system of drainage to take the place of the present open drains; offices, workshops, and stables near the Boysnope dock, and a post and rail fence to enclose such parts of the estate as are unenclosed and dangerous. Mr. T. de Courcey Meade, City Surveyor, gave further details of the proposed works. At the close of the inquiry the Inspector paid a visit to the Chat Moss estate.—An inquiry was next held in relation to the new dwellings proposed to be erected by the Great Northern Railway Company in place of those proposed to be pulled down in and about Deansgate, for the purposes of the new goods station which was recently sanctioned by Parliament. Mr. Barrs, solicitor to the Railway Company, said the buildings it was proposed to remove consisted of 116 houses, inhabited by 516 persons, chiefly of the labouring class, and forty-two lodging-houses, which on a particular night on which inquiry was made had 611 inmates. Having regard to the dilapidated condition of so many of the houses, it was thought that the buildings proposed to be erected formed a very liberal allowance for those that were to be removed. Mr. W. H. Elwell, Surveyor to the Company, said the houses proposed to be built numbered sixty, and they would be erected on a site in the Ashton-road, a mile and a half from the Deansgate site. The Company did not contemplate the immediate clearance of the whole of the Deansgate site. The houses would have exactly the same accommodation as those proposed to be erected by the Corporation at Miles Platting. It would have been cheaper for the Company to put up a block of dwellings five stories high, and a site for such a building might have been obtained nearer to Deansgate, but it was found that such dwellings were not regarded with favour in Manchester.—Colonel Hasted sat again at the Town Hall in the evening for the purpose of inquiring into an application by the Corporation for power to borrow 14,000*l.* for the erection of artisans' dwellings. Mr. T. Hudson, Deputy Town Clerk, who represented the Corporation, explained that the application arose out of the Gaythorn-street and South Junction-street improvements. Those improvements had displaced a certain number of people, for whose accommodation it was proposed to erect sixty two-story dwellings at Miles Platting. Mr. Alderman Clay, Chairman of the Improvement and Buildings Committee, stated that the improvement which had necessitated the demolition of the dwelling-houses consisted of the making of a new thoroughfare right through from London-road, by Deansgate and Chester-road, to the Pomona Docks. The Committee had looked about for a suitable site, and the nearest they could get was that at Miles Platting. It was probably quite true that within easy distance of Gaythorn-street there was a sufficient number of unoccupied houses to meet the wants of the people whose houses were being demolished, and plans had recently been passed for the erection of many new buildings. Mr. Meade, the City Surveyor, gave details with regard to the proposed new houses, each of which is designed to accommodate five persons.

WIDENING OF THE STRAND.—The Select Committee of the House of Commons, presided over by Sir James Kitson, on the 6th inst., commenced the consideration of the Bill for widening the Strand in front of the Hotel Cecil. Mr. Freeman, Q.C., announced that as the improvement was of a public nature, the London County Council had undertaken to contribute 30,000*l.* towards the cost. It was intended to set back the shops so as to give a uniform width of 80 ft. along that portion of the Strand facing the hotel.—Mr. John Annan, the manager of the United Realisation Company, in his evidence, stated that the net cost of the scheme would be 120,000*l.* The Hotel Cecil had cost 1,250,000*l.* to erect. The hotel covered an area of 2¾ acres. Several witnesses were called in support of the Bill, who concurred in the view that the removal of the block and the consequent throwing into the Strand of the spacious courtyard of the hotel would be a great improvement to the thoroughfare. The case for the opponents was submitted, and the Committee, after hearing evidence and counsel in argument for and against the Bill, declared the preamble proved.

DOULTON'S "SIMPLICITAS VALVE" CLOSET.—This is an ingenious combination of the pedestal form of wash-down closet with a valve. The special points are thus described by the manufacturers:—"The objectionable enclosure is quite done away with, the apparatus being fixed with all parts exposed. In the ordinary valve closet, should there be a leakage from any cause, the basin is absolutely dry, but in the 'Simplicitas Valve' closet, while there is a large body of water retained under ordinary conditions, there is also retained in the basin as much water as is usually provided in a wash-down closet, even should the valve be kept open, so that there can never be a dry pan; added to which, being flushed by an ordinary simple waste-preventer, it cannot permit a constant trickle of water, a very fruitful cause of frozen soil pipes. In addition to this, there



Doulton's "Simplicitas Valve" Closet.

is no space between the discharge valve and water in the trap, as in an ordinary valve closet, thus obviating the possibility of an accumulation of gases. To discharge the closet, the chain has simply to be pulled and released, when by special arrangement the siphonic action of the cistern keeps open the discharge valve until the contents of the tank have passed through the trap and cleansed both it and the basin, when the valve again closes and the basin is filled to the overflow; it is quite unnecessary to continue to hold the handle." Our general opinion of valve closets is that they are a good form when in perfect order, but they are liable not to be so, and this one seems rather complicated. The retention of water in the basin under all circumstances (if that can really be achieved) is however a great point in its favour, and it certainly merits the attention of architects.

THE PRUSSIAN ROYAL ACADEMY.—This body celebrated the two hundredth anniversary of its foundation on the 3rd inst. This has been the occasion for several interesting ceremonies, the principal of which was attended by the Emperor. It is interesting for architects to hear that the Academy is presided over by Professor Ende, the architect, who has held office for about a year. It will also be of interest to note that of the sixty-four resident members of the Academy thirteen are architects, whilst of the seventy-six foreign or country members, six belong to that profession. The names of the resident architectural members are as follows:—Messrs. Adler, Ende, Griesbach, Von Groszheim, Heyden, Jacobsthal, Kayser, Orth, Otzen, Raschdorff, Schmieden, Schmitz, and Schnechten; while of the six provincial and foreign members, one is Mr. Waterhouse, R.A. The architectural schools are presided over by Professor Ende and Professor Otzen respectively; but as in the case of our own Royal Academy, the number of pupils is a very small one.

NEW REREDOS, STILLINGTON.—On Tuesday a new reredos was unveiled at Stillington, which has recently been finished from the design of Mr. J. P. Pritchett, architect, of Darlington. The design is in Early English, and consists of an arcade of seven trefoil-headed arches in Caen stone, supported by shafts of polished pink alabaster. The panels contain paintings of our Saviour in the centre, with Moses, St. Paul, and the four Evangelists to the right and left. The mason's work has been executed by Mr. Dodds, of Melsonby, the carving by Messrs. Beall, of Newcastle, and the paintings by Messrs. Ward & Hughes, of London.

THE SANITARY INSTITUTE.—The Council have accepted an invitation from the city and county of Newcastle-upon-Tyne to hold a Sanitary Congress and Health Exhibition in that city in the autumn of this year

WATER SUPPLY FOR HOTELS.—Messrs. Merryweather & Sons, of Long-acre and Greenwich, have devised a system of pumping that should prove useful to hotels, large public buildings, and mansions. The machinery consists of a treble-barrel high-speed pump driven by an electric-motor using the lighting current. The apparatus, as exhibited by the firm, is a brush dynamo, which attains to a speed of 900 revolutions per minute, directly coupled to the pump without the intervention of gearing, the last being a special feature. The dynamo absorbs 13 amperes at 100 volts, and is capable of throwing 40 gallons per minute to a height of 100 ft. The machinery is so arranged that at such times as it is not employed in raising water, the dynamo may be uncoupled and utilised in driving laundry apparatus, &c. In lifting water for ordinary hotel supply the motor is not, of course, usually run at such a high rate of speed as that above mentioned, which is specially applicable to extraordinary circumstances, as in case of fire. The machinery may be stowed into a very small compass, and is practically noiseless. One point struck us in looking at it, namely, that for the majority of the edifices for which it is primarily intended the apparatus would require to be larger. Such machinery is usually placed in the basement, and a throw of 100 ft. would not be sufficient for many buildings on the extended scale of our large hotels—more particularly those obtaining their water-supply from wells. The figures above given may, however, be taken as relative, and the question of size could, no doubt, be got over without the starting of the dynamo materially interfering with the steadiness of the electric lights taken from the same circuit.

CAPITAL AND LABOUR.

THE LONDON BUILDING TRADE STRIKE.—The Standing Committee on Trade Questions of the Central Association of Master Builders met the delegates of the United Operative Plumbers' Association on the 8th inst., and have arrived at a complete and satisfactory agreement. The working rules are as follows:—1. That the working hours in summer shall be 47 per week for forty weeks. That during twelve weeks of winter, commencing on the second Monday in November, the working hours shall be for the first three weeks and the last three weeks 44½ hours per week, and during the six middle weeks 41½ hours per week. Hours of labour:—Summer (for forty weeks)—First five days of each week, 7 a.m. to 8 a.m., 8 30 a.m. to 12 noon, 1 p.m. to 5 p.m., Saturdays, 7 a.m. to 8 a.m., 8.30 a.m. to 12 noon, equal to 47 hours per week. Winter (for twelve weeks)—For three weeks commencing the second Monday in November, first five days of each week, 7 a.m. to 8 a.m., 8.30 a.m. to 12 noon, 1 p.m. to 4.30 p.m., Saturdays, 7 a.m. to 8 a.m., 8 30 a.m to 12 noon, equal to 44½ hours per week; for the next six weeks, first five days of each week, 8 a.m. to 12 noon, 1 p.m. to 4 30 p.m., Saturdays, 8 a.m. to 12 noon, equal to 41½ hours per week; for the following three weeks, first five days of each week, 7 a.m. to 8 a.m, 8.30 a.m. to 12 noon, 1 p.m. to 4 30 p.m., Saturdays, 7 a.m. to 8 a.m, 8.30 a.m. to 12 noon, equal to 44½ hours per week. Plumbers to have one hour for dinner throughout the year. (2.) That the present rate of wages shall be advanced one halfpenny per hour from August 1, 1896. (3.) That workmen being required to work overtime shall receive, from 8 p.m. to 11 p m. time and a half; from 11 p.m. to 7 a.m. double time. Saturdays, from 1 p m. to 5 p.m., time and a half; from 5 p.m. to 7 a.m. (Monday) double time. Sundays double time. (4.) That one hour's notice be given or one hour's time be paid by either side on determining an engagement. All wages due shall be paid at the expiration of such notice, or walking time if sent to yard. In the event of more than *ten per cent.* of the workmen of the trade employed at the job giving notice to leave during any one day (except Saturday), they shall not be entitled to receive their money until noon on the following day. (5.) That the term "London District" shall mean six miles radius from Charing Cross; and any skilled workman sent to work over four miles from his employer's workshop shall receive all travelling expenses. If sent over eight miles

from his employer's workshop he shall be entitled to 1s. per day extra, with the usual allowance for lodgings, and all travelling expenses. Should there be no accommodation for him to reach his work at 7 a.m., he shall be entitled to 1s. per day, unless he travel in the employer's time and be paid from 7 a.m. (6.) That payment of wages shall commence at noon, or as soon thereafter as practicable, on Saturday, and be paid on the job. But if otherwise arranged, walking time at the rate of three miles per hour shall be allowed to get to the pay table at twelve noon. (7.) That employers shall provide, where practicable and reasonable, a suitable place for the workmen to have their meals on the works, with a labourer to assist in preparing them. (8.) That wages earned after leaving-off time on Friday and Saturday only shall be kept in hand as back time. (9.) That in case of any dispute arising under these rules which cannot be settled by the employer and employé, no strike shall take place, but such dispute shall be referred to and decided by the Board of Conciliation, whose decision shall be final. Provided that no objection shall be taken to any workman in consequence of his belonging or not belonging to any trade society. (10.) That six months' notice on either side shall terminate the foregoing rules.—The members of the Plasterers' Union have rejected the settlement offered by the master builders last week. The matter has been balloted on, and the men have been asked to give their opinion on the hours of labour, the notice necessary for the termination of the agreement, and the rule which provides against striking against an obnoxious workman. The two former rules have been accepted, but the latter has been rejected almost with unanimity. Over 2,000 ballot papers were received, and only ninety-seven of these were in favour of accepting the employers' terms. As the master builders are determined to come to no settlement with the plasterers unless a clause is inserted in the rules providing for the harmonious working of union with non-union men, a settlement is out of the question at present, and the strike must go on. The plasterers have now about 2,000 men at work at the advance, it is stated. The men who are at work are paying a levy of 3s. per week, and this raises the ordinary strike pay of 15s. to over 20s. per week. Arrangements are being made to draft a number of plasterers into the provinces—The carpenters' ballot has gone against accepting the master builders' terms, and in favour of a strike throughout London on Monday. The conference with the Master Builders was presided over by Mr. Holloway. The builders still held to their determination as to the disability clauses in the new code of rules, whilst the carpenters offered to compromise the wages question by putting off the increase of wages until August 1. But no agreement was arrived at, and the meeting was dissolved.—The labourers have made no further move, and their offer to agree to a code of rules, providing that the increase of wages they ask for was granted, has been rejected. The employers offered the men an advance of wages of one farthing per hour on condition that a code of rules was signed similar to that accepted by the bricklayers and plumbers. The men refused to accept less than one halfpenny an hour.

THE BUILDING TRADE STRIKE IN DUBLIN.—The trades directly affected in this strike are the carpenters, bricklayers, plasterers, and labourers, and about 2,500 members of these bodies are idle. The carpenters, it is stated, as a body are remaining on in Dublin, but the other trades affected are meeting the difficulty by leaving the city. They say that trade is good everywhere just at present, and they are sanguine of getting work in England and Scotland, or in other parts of Ireland. The carpenters form the most important body of those on strike. Their membership totals 1,200, but owing to the fact that a large number of employers have made the concessions asked, and have not sought to impose the new rules, only about 600 have ceased work. The matter in dispute is such a small one—having reference only to the number of hours to be worked in the winter months—that they are very hopeful of an early settlement. The Bricklayers' Society consists of 820 members. Some are engaged at various places throughout the country, 150 are still working in Dublin for the firms who have given the men's terms, and 450 men are idle. Numbers of these men are going away to England in search of work, but they do so on their own responsibility. The Plasterers' Society numbers over 300 members, and all of these have ceased work with the exception of the small proportion employed by the few firms who have not joined the Masters' Association nor acted with them.

THE LEEDS BUILDING TRADE.—The strike in the Leeds building trade has almost entirely suspended building operations in the city. Only very few jobs are being proceeded with, and these are of an insignificant character. In no previous dispute have the employers, it is said, been so united as they are now. Previously the non-federated masters, or at least a number of them, have acted on such occasions as it suited their individual interests, but there now appears to be a general determination to resist the demands of the workmen. The questions in dispute do not relate entirely to rates of wages; there are rules proposed which the masters will not accept, and it is understood that these are regarded with very strong objection. The masters complain especially of the encroachments which the labourers are seeking to make upon the employer's right to control his own business, and this aggressive attitude, it is said, will be resisted at whatever cost, for hitherto concessions of this kind have simply paved the way for fresh requirements of an unreasonable character. The above represents the state of things so far as the employers are concerned, and as the men are at present equally determined to gain what they seek, the prospect of a settlement being arrived at is not encouraging.—*Leeds Mercury.*

STRIKE IN THE STOURBRIDGE BUILDING TRADE.—A strike has occurred in the Stourbridge building trade. Twelve months ago there was a strike in the trade, which ended in an advance of wages from 7d. to 8d. per hour. On January 1, in the present year, the members of the Stourbridge branch of the Operative Builders had notice from the Master Builders' Association of an intended reduction of ½d. per hour. A notice was sent by the Operatives' Society that they would not accept any reduction. The notice of the masters expiring on April 30, the members of the men's society are now out on strike.

LEGAL.

IMPORTANT POINT UNDER THE LONDON BUILDING ACT, 1894:

CASE IN THE DIVISIONAL COURT.

THE case of Drury *v.* the Army and Navy Stores came before a Divisional Court of Queen's Bench, composed of Mr. Justice Wright and Mr. Justice Collins, on Wednesday, it being a case stated by a Metropolitan magistrate upon a summons under the London Building Act, 1894. Section 75 of the Act provides that no building of the warehouse class shall extend to more than 250,000 cubic feet, unless divided by party walls in such manner that no division shall extend to more than 250,000 cubic feet. Sections 77 and 59 contain provisions in regard to party walls, requiring them to be of a certain thickness and regulating the apertures in them. It appeared that the defendants erected a building of the warehouse class of the capacity of 657,408 cubic feet, divided by two party walls. One portion of the building extended to five stories, and the other to one story, the latter portion being lighted by a sky-light. There was a wall between these two portions of the building which was admitted, as regards that part of it which reached to the first story, to be a party wall. But the defendants claimed that the part of the wall which extended above the first story was not a party wall, and that they were, therefore, at liberty to construct windows and apertures in it without regard to the provisions of the Act dealing with party walls. The magistrate refused to convict.

Mr. Horace Avory, representing the District Surveyor, contended that the whole wall in question was a party wall, because Section 59 provided that a party wall must be carried up of a thickness equal to the thickness of such wall in the topmost story of the highest building adjoining thereto, to such a height as will give a distance of at least 3 ft., measured at right angles to the slope of the roof.

Their lordships, at the conclusion of the arguments of counsel, affirmed the decision of the magistrate. They held that the words "party wall" in Section 75 of the Act were not used in a technical sense, and that Section 59 did not bear the construction put upon it by Mr. Avory. All that section meant was that, so far as a wall was a party wall, it should comply with the requirements of the section; but there was no presumption that a wall which was a party wall as to a portion of its height should be a party wall as to its whole height. Section 75 did not make a wall a party wall above the line where it ceased to divide the two buildings.

Mr. McCall, Q.C., and Mr. R. C. Glen appeared as counsel for the respondents.

MEETINGS.

FRIDAY, MAY 15.

Architectural Association. — Members' Soirée, St. Martin's Town Hall, Charing Cross-road. 8 p.m.

SATURDAY, MAY 16.

Northern Architectural Association. — Visit to the *Newcastle Chronicle* Offices.

MONDAY, MAY 18.

Royal Institute of British Architects. — Mr. R. F. Chisholm on "Baroda Palace: The Town Residence of H.H. Sir Syaji Rao, G.C.S.I., Maharaja Sahib Gaekwar." 8 p.m.

Society of Arts (Cantor Lectures).—Mr. James Swinburne on "Applied Electro-Chemistry." IV. 8 p.m.

TUESDAY, MAY 19.

Society of Arts (Applied Art Section).—Mr. George Simonds on "Bronze Casting in Europe." 8 p.m.

Institution of Civil Engineers.—(1) Professor J. A. Ewing on "The Magnetic Testing of Iron and Steel;" (2) Mr. Horace F. Parshall on "Magnetic Data of Iron and Steel." 8 p.m.

WEDNESDAY, MAY 20.

Carpenters' Hall, London Wall (Lectures for Shop and Outdoor Foremen in Carpentry and Joinery).—Mr. F. R. Farrow on "Strength and Strains in Wood." 8 p.m.

Society of Arts.—Captain W. de W. Abney on "Orthochromatic Photography." 8 p.m.

Builders' Foremen and Clerks of Works' Institution.—Ordinary meeting of the members. 8 p.m.

THURSDAY, MAY 21.

Society for Encouragement of the Fine Arts.—Mr. F. Hamilton Jackson on "Gesso, in relation to Decorative Painting."

Society of Antiquaries.—8.30 p.m.

SATURDAY, MAY 23.

Edinburgh Architectural Association.—Visit to (1) St. Serf's Church, (2) Ravenscraig Castle, (3) Kirkcaldy.

RECENT PATENTS:

ABSTRACTS OF SPECIFICATIONS.

8,763. — WATER CLOSETS: *J. Edmundson.* — The patentee's object is to provide an efficient flush, especially where waste water is used. The various means that he employs for this purpose are: (1) a box, with a loose cover and suitable branch connexions at the side, which is fixed at a suitable place, and from which, by employment of rods, the drains can be cleared; (2) an improved arrangement of tipper, tipper-box, and syphon; (3) the formation of the closet pan with a square bottom, for obtaining a better flush; and (4), the improved arrangement and construction of baffle-plates for intercepting large articles.

9,346. — COAL-SAVING APPLIANCE: *W. Harvey.* — Consists in a horizontal grid and vertical bars, either separate or combined, with, preferably, projections cast on the upper surface of the former, and with lug to project in front of the grate, so that by a poker or a handle the appliance can be agitated or moved when desired.

22,578.—CHIMNEY TOP: *W. D. Sharp.*—Consists in a flue terminal of metal, earthenware, &c., adapted for free exit of smoke, and prevention of down-draught, by being constructed as follows:—A tube is surmounted at a short distance above the summit by an overhanging conical cap. At a short distance below the top of the tube a horizontal funnel-shaped annular guard is fixed, the lower end of which is larger than the tube, and broadens as it ascends, so that its upper part surrounds the lower part of the conical cap, and shelters the outlet of the flue against wind pressure.

310.—SCAFFOLDING: *F. G. Knopfe and Another.*—The patentees employ iron scaffolding consisting of the combination of tubular poles made in lengths, means (eyed stays) for connecting such lengths, and supports mounted on said poles for the foot plank brackets.

2,994.—CHIMNEY AND VENTILATOR TOPS: *M. H. Foster.*—Consists of metal chimney-top, with summit rectangular in plan, with openings in each side, covered by flaps hinged at top edge. Opposite pairs of flaps are connected by a rod, in such wise that a prevailing wind blowing one flap to will cause the flap on the side immediately opposite to open.

3,444.—ROOFING: *E. E. W. Klinkmüller.*—Relates to a method of tile roofing, consisting of interlocking tiles, provided with hooks or eyes and links, whereby they can be secured to the purlins or sheathing.

3,863.—ROOFING TILE: *R. G. Kinsky.*—The invention consists in a roofing tile characterised by ribs on the upper side and along longitudinal edges, and by grooves on the under side, so that they may engage and form a double layer when laid on, or a treble one in parts of roof exposed to great action of snow or wind.

NEW APPLICATIONS FOR LETTERS PATENT.

APRIL 27.—8,823, J. and W. Place, Pans or Basins of Waste or Slop Water-closets.—8,836, C. Lee, Syphon Cisterns.—8,852, J. Walker, Opening and Closing or Manipulating Ventilators, Sashes, Doors, Shutters, &c., in Places not readily Accessible.—8,863, W. Pryke & W. Palmer, Eaves' Gutters.

APRIL 28.—8,887, J. Rigby, Tiles, Slabs, Wallings, &c.

APRIL 29.—9,055, I. Timmis, Fireproof Cements and Varnishes.

APRIL 30.—9,063, D. Smith, Door Latch.—9,073, H. Macaulay, Sliding Windows.—9,064, G. Kyte and J. S. McKelvie, Lubricating Mortar Mill Footstep Bearings and Bearings of a like nature.—9,102, J. Duckett & Son, Limited, and J. Duckett, Chimney Pots, for the Prevention of Down Draughts.—9,104, W. Nicholson, Sliding and Swinging Window Sashes.

MAY 1.—9,157, A. Long, Warming and Ventilating Buildings.—9,159, R. Eccles and the Castle Rubber Co., Ltd., Pull Handles for Water-closet Flushing Cisterns, &c.—9,163, W. Thompson, Improved Method of Constructing Windows.—9,187, J. Marshall and E. Leech, Sawing Machine.—9,190, J. Hoerner, Apparatus for Planing Blocks and for Mitre Cutting.—9,195, J. Newbould, Fastenings and Attachments for Door Knobs, &c.—9,223, W. Washington, Caissons for Pier Foundations, &c.—9,261, W. Williams, Chimneys, Ventilating Shafts, &c.

MAY 2.—9,281, C. Copeland, "Trial Pieces" and Shrinkage, or "Trial Gauges," for ascertaing the temperature of ovens, or kilns, in which pottery, bricks, &c., are fired.—9,324, M. Kaelin, Apparatus for use in making Picture Frames, &c.—9,351, E. Murray, Dredging Pipe Sewers and Drains.—9,361, M. Adams, Earth Closets.

PROVISIONAL SPECIFICATIONS ACCEPTED.

3,364, W. McCormick, Syphons for Emptying Cisterns to Supply Closets, Lavatories, &c.—4,464, G. Kerwood, Metal Combined Brad and Clip for Securing Glass, &c., in Position.—5,335, N. Macphail, Imitation Stained Glass.—5,991, C. Horton, Framework for Fencing Gates, Roofing, and Portable Buildings.—6,891, C. Wall, Building Blocks.—7,052, J. Hamilton, Roof Ladders, and Staging.—7,227, C. Wall, Building Blocks.—7,282, T. Stock and Others, Syphon Flushing Cisterns and Water-waste Preventers.—7,287, D. Barclay, jun., Telescopic and Measuring Staff for Surveying and Measuring Work.—7,407, C. Grundy, Combined Screw and Nail.—7,488, G. Vincent, Reversible Sliding Windows.—7,525, W. and T. Cooper, Water-closets.—7,703, L. Viard, Surveying Instrument, &c.—7,713, S. Naylor, Windows with Combined Sliding and Swinging Sashes.—7,820, C. Strapps, Movable Partitions, Sliding Doors, &c.—7,859, W. Shears, Retaining Window-sashes in a Closed or Open Position.—7,866, J. Hamblet and I. Parkes, Machinery used in the Manufacture of Coping Bricks, Terra-cotta Building Blocks, &c.—7,867, W. McBeth, Band Saw Guides.—7,892, J. Summers and J. Ogburn, Plastering Compounds.—7,958, G. Power, Roofing Tiles.—8,016, A. Wright, Water Service Pipes to Prevent Fracture by Frost.—8,053, O. Black, Fire-grates, &c.

COMPLETE SPECIFICATIONS ACCEPTED.

Open to opposition or two months.

8,216, B. Vandeesteen, Water Meter. — 8,506, W. Schaper, Metallic Lathing.—9,170, J. Kalix, sen., Floor for Baking Ovens.—10,511, W. Bozdell, Affixing Doors and Gates to Brick, Stone, and like Walls.—11,060, B. Banks and Others, Machine for Trenching, Panel Cutting, Shouldering, Tenoning, and Scribing Wood by Hand or Power.—12,368, C. Jamieson, Window Sashes.—12,400, W. Williams, Fixing Rain-Water, Soil, and other Eared Pipes.—12,903, H. Doulton and C. Morris, Earthenware Pipes, &c.—14,958, J. and W. Allen, Locking and Movable Airtight Joint for Sockets or Sanitary and other Cylindrical Pipes.—16,545, A. and T. Sabine, Machines for the Manufacture of Sanitary Pipes, Chimney-Pots, &c.—18,216, J. Bradbury, Wood Planing Machines.—19,299, H. Brice and J. Jones, Syphon Flushing Cisterns or Water-Waste Preventers.—25,010, H. Lake, Door Securing Devices.—2,786, M. Adams, Supporting Lavatory Basins, &c.—4,152, R. Cox, Stone-Sawing Machines.—4,330, A. Moldenhauer, Handcords for Staircases.—4,602, J. Holroyd and R. Bond, Facing Tiles, &c.—6,169, M. Lauder, Chimneys, Ventilators, &c.—6,671, A. Eells, Foundations for Lighthouses, Piers, &c.—7,029, A. Weil, Roofing Tiles.—7,069, H. Crudgington, Syphon Flushing Cisterns.

SOME RECENT SALES OF PROPERTY:

ESTATE EXCHANGE REPORT.

April 23.—By FAREBROTHER, ELLIS, & Co.

City of London.—11, Salisbury-sq., f., area 890 ft. £2,680
Charing Cross.—14, Bedfordbury, f., r. 75*l.* 970
Wandsworth.—25, Balham-pk.-rd., u.t. 89½ yrs., g.r. 10*l.*, r. 42*l.* 565
103 and 124, Sarsfeld-rd., u.t. 89½ yrs., g.r. 13*l.*, r. 70*l.* 820
1 Heslop-rd., u.t. 89½ yrs., g.r. 8*l.*, r. 38*l.* 470

By CREWS & SON (at Budleigh Salterton).

Budleigh Salterton, Devon.—"The King William Inn," u.t. 86¼ yrs., g.r. 2*l.* 1,860
Little Knowle, a freehold cottage, r. 12*l.* 210

By MADDISON, MILES, & MADDISON (at St. Olaves).

Haddiscoe, Norfolk.—Two enclosures of marsh land, 19a. or. 30p., f. and c. 420

By J. E. FISHER (at Tooting).

Tooting.—Longley-rd., "Mona," f., e.r. 40*l.* 600
73, 75, and 77, Longley-rd., u.t. 82 yrs., g.r. 15*l.*, r. 92*l.* 600

By J. E. DICKINSON (at Lincoln).

Lincoln.—High-st., a plot of land, area 193 yds., f. 2,040

By RICHARDSON & PEARCE-BROWN (at Hillam).

Hillam, Yorks.—A farmhouse and enclosures of land, 54 a. 3 r. 22 p., f. and c. 2,150

April 24.—By W. B. HALLETT.

Holloway.—59, Tufnell Park-rd., u.t. 68 yrs., g.r. 8*l.*, r. 42*l.* 410
Islington.—47, Wynford-rd., u.t. 49 yrs., g.r. 6*l.*, r. 50*l.* 400
112, Copenhagen-st., u.t. 49½ yrs., g.r. 9*l.*, r. 60*l.* 730

By JONES, LANG, & Co.

Clerkenwell.—57, 58 and 60, St. John's-sq., f., area 4,800 ft., f. 2,500

By MULLETT, BOOKER, & Co.

Kilburn.—7, Ariel-rd., u.t. 81 yrs., g.r. 7*l.* 10s., r. 32*l.* 245

By SUTTON ABBOTT.

Snaresbrook. — Tavistock-rd., "Dunorlan," f., e.r. 60*l.* 790

By C. P. WHITELEY.

Wood Green.—Mayes-rd., f.g.r. 19*l.*, reversion in 82 yrs. 480
Hornsey.—Myddleton-rd., f.g.r., 10*l.* 10s., reversion in 80½ yrs. 265
Pembroke-rd., &c., f.g.r. 26*l.* 10s., reversion in 80½ yrs. 670
Eastfield-rd., f.g.r. 99*l.* 5s., reversion in 91 yrs. 2,510
Putney.—13 and 15, Pentlow-st., u.t. 79½ yrs., g.r. 10*l.* 375
Lee.—38, 40, 42 and 44, Boone-st., f., r. 94*l.* 4s. ... 1,235
28, 30, 32 and 34, Boones-rd., u.t. 30 yrs., g.r. 10*l.* r. 81*l.* 525
46 and 48, Turner-rd., u.t. 60 yrs., g.r. 7*l.*, r. 56*l.* 4s. 460
6, 8, 10 and 12, Boone-st., u.t., 23 yrs., g.r. 10*l.* 320
Clapham.—27 and 29, Turret-grove, u.t. 30 yrs., g.r. 8*l.* 8s., r. 60*l.* 475

By WYATT & SON (at Emsworth).

Emsworth, Hants. — Horndean-rd., "Myrtle House" and 4 a. 3 r. 31 p., f. 1,825

By COOK & BIRMINGHAM (at Exeter).

Whimple, Devon.—"Holways" and 116 a. 0 r. 16 p., f. 5,433
Payhembury, Devon. — "Upton Farm," 85 a. 1 r. 26 p., f. 2,975

April 27.—By W. W. JENKINSON.

Ponder's End.—Lincoln-rd., "Beaufort House," f. 560

By RUTLEY, SON & VINE.

Barnsbury.—80, Richmond-rd., u.t. 26½ yrs., g.r. 6*l.*, r. 42*l.* 300

By E. FERGUSSON TAYLOR.

Caledonian-rd.—82, Bingfield-st., u.t. 72 yrs., g.r. 8*l.*, r. 50*l.* 375

By OETZMANN & Co.

Hampstead.—97, Iverson-rd., u.t. 78½ yrs., g.r. 7*l.*, e.r. 45*l.* 420
Camden Town.—127, Torriano-av., u.t. 44 yrs., g.r. 6*l.* 6s., e.r. 42*l.* 303
Clapham.—8, 11, 13, and 15, Rosebery-rd., u.t. 85½ yrs., g.r. 24*l.* 10s., r. 142*l.*; 21, 23, 25, and 31, Rosebery-rd., u.t. 87 yrs., g.r. 24*l.*, r. 124*l.* 2,125

By C. F. MOORE (At Swindon).

Blunsdon St. Andrew's, Wilts.—"The Grove Farm," 328 acres, f. 3,450

By F. S. PRIEST (At Harlesden).

Willesden.—22 to 28 (even), Melville-rd., u.t. 84½ yrs., g.r. 20*l.* 435

By W. H. BAMBER (at Stoke-on-Trent).

Stoke, Staffs.—Campbell-rd., &c., enclosure of building land, 23 a. 0 r. 7 p., c. £6,325
Hanley, Staffs.—Fenton-rd., enclosure of land, 4 a. 3 r. 15 p., c. 523

April 28.—By PERCIVAL HODSON.

Holloway.—16, Medina-rd., u.t. 60 yrs., g.r. 4*l.* 10s., r. 30*l.* 305
73, Devonshire-rd., u.t. 55 yrs., g.r. 5*l.* 5s., r. 30*l.* 275

By H. DONALDSON & SON.

Finsbury Pk.—291 and 295, Green Lanes, u.t. 60 yrs., g.r. 20*l.*, r. 210*l.* £2,190

By P. & G. GEEN.

Kennington.—Lollard-st., &c., improved rental of 434*l.* 12s. per annum, u.t. 12½ yrs. 3,300

By JONES, SON, & DAY.

Limehouse.—743 and 745, Commercial-rd. East, f., r. 112*l.* 10s. 1,150
Elsa-st., f.g.r. 4*l.*, reversion in 17 yrs. 190
82a, Elsa-st., and 87, Eastfield-st., f., r. 26*l.* 200
1 to 4, Five Bell-alley, and 29, Three Colt-st., f., r. 65*l.* 430
Poplar.—72 and 74, High-st., f., e.r. 80*l.* 300
St. George's East.—32, Old Gravel-lane, f., r. 24*l.* 285
Hackney.—6, 8, 10, and 12, Wick-rd., f., r. 83*l.* 4s. 258, Wick-rd., f., r. 26*l.* 860
East Ham.—1 to 4, Southgate-villas, f., r. 104*l.* ... 1,040

By T. G. WHARTON.

City of London. — King William-st., i.g.r. 280*l.* 16s. 3d., u.t. 18 yrs., g.r. 130*l.* 16s. 3d. ... 1,750
Gracechurch-st., i.g.r. 105*l.*, u.t. 18 yrs., g.r. 45*l.* 710
Southwark.—13, Duke-st., u.t. 17 yrs., g.r. 27*l.*, r. 100*l.* 660
Highbury.—64, Highbury-grove and 0 a. 2 r. 30 p., f., e.r. 135*l.* 1,810

April 29.—By DANN & LUCAS.

Welling, Kent.—"Moat House" and 2 a. 1 r. 17 p., u.t. 15½ yrs., g.r. 14*l.*, r. 80*l.* 300

By FOWLER POOL.

Leyton.—67, 69, 71, and 73, Faraday-rd., f., r. 78*l.* 525

By F. W. CHARD & Co.

Dulwich.—Crystal Palace-rd., f., g.r. 12*l.*, reversion in 26 yrs. 410

By T. B. WESTACOTT.

Hendon.—Parsons-st., "St. Helen's" and "Abbeville," f., r. 100*l.* 1,360

By W. N. WILLOUGHBY.

Norwood.—Livingstone-rd., 2 freehold building plots 173

By R. TIDEY & SONS.

Stoke Newington.—49 and 51, King Henry's-walk, u.t. 53¾ yrs., g.r. 13*l.* 10s., r. 93*l.* 900
Caledonian-rd.—48 and 50, Stanmore-st., u.t. 45 yrs., g.r. 16*l.*, r. 72*l.* 440
Hoxton.—35 to 41 (odd), Shepperton-rd., u.t. 10½ yrs., g.r. 24*l.*, r. 80*l.* 210
Hornsey.—22, Waldegrave-rd., u.t. 83 yrs., g.r. 6*l.*, r. 26*l.* 230
London Fields.—3 and 4, Blanchard-rd., u.t. 51 yrs., g.r. 10*l.* 315
Bethnal Green.—14, 15, and 16, Hunslett-st., u.t. 30 yrs., g.r. 9*l.* 500
De Beauvoir Town.—33 to 43 (odd), Tottenham-rd., u.t. 22 yrs., g.r. 15*l.* 15s. 500

By E. W. RICHARDSON & SON.

Stoke Newington.—67, Kynaston-rd., u.t. 68 yrs. g.r. 4*l.* 10s., e.r. 30*l.* 290
Caledonian-rd.—74, Bemerton-st., u.t. 48½ yrs., g.r. 5*l.*, r. 45*l.* 395
Westminster.—15, 16, and 17, St. Ann's-st., and 34 and 35, Old Pye-st., f., area 4,400 ft. 2,775

By MOSS & JAMESON.

Hampstead-rd.—Robert-st., i.g.r. 47*l.* 18s., u.t. 25½ yrs., g.r. 8*l.* 500
Kentish Town.—Ashdown-st., i.g.r. 21*l.*, u.t. 68½ yrs., g.r. 2*l.* 400
Mayfair.—5 to 8, Davies Mews, u.t. 6 yrs., g.r. 85*l.*, r. 361*l.* 10s. 525
Hampstead-rd.—112, Stanhope-st., u.t. 25½ yrs., g.r. 8*l.*, r. 42*l.* 360
Marylebone.—Hereford-st., f.g.r. 50*l.*, reversion in 24 yrs. 2,230
Grays Inn-rd.—Seaford-st., f.g.r. 26*l.* 5s., reversion in 53¾ yrs. 1,650
Peckham.—Shard's-rd., f.g.r. 20*l.*, reversion in 40¾ yrs. 835

By Messrs. EILOART.

Euston-rd.—No. 363, also 26, Southampton-st., f. 2,200
Battersea.—Queen's-rd., a freehold rental of 49*l.* ... 1,100
Queen's-rd., f.g.r. 85*l.*, reversion in 64½ yrs. ... 2,550
Queen's-rd., f.g.r. 25*l.*, reversion in 62 yrs. 720
Queen's-rd., f.g.r. 72*l.*, reversion in 81½ yrs. 1,930
Queen's-rd., f.g.r. 25*l.*, reversion in 62 yrs. 680
42 and 44 to 48, Silverthorne-rd., u.t. 80 yrs., g.r. 32*l.* 5s. 6d. 1,050
Kensington.—7, Holland-rd., u.t. 28½ yrs., g.r. 10*l.* r. 65*l.* 500

By HEPPER & SONS (at Leeds).

Leeds.—Briggate, &c.—A Block of Shop and House Property, and Licensed Premises, area 4,264 yards, f., r. 1,497*l.* 12s. 8d. 60,500

By WYATT & SON (at Chichester).

Chichester, Sussex.—36 to 39, Grove-rd., and 4 other houses, f., r. 109*l.* 4s. 1,310
Grove-rd., a plot of land, f. 120

By COCKETT & HENDERSON (at Romford).

Romford.—Main rd., four building sites, 3 a. 3 r. 10 p., f. 940

By FRANKLIN & GALE (at Oxford).

Standlake, Oxon.—"The Manor Farm," 123 a. 2 r. 10 p., f. 1,700
"Yew Tree Farm," 46 a. 1 r. 15 p., f. 1,200
"Westfield Farm," 42 a. 3 r. 26 p., f. 500
Freehold cottage and enclosures, 65 a. 1 r. 21 p. 915

April 30.—By SIM & RANDALL (at Forest Gate).

Forest Gate.—6, Elmhurst-rd., and half an acre, f., e.r. 35*l.* 490
North Woolwich.—1, Trinity-st., u.t. 79 yrs., g.r. 3*l.* 205

By BLACKFORD & SON (at South Molton).

Chittlehampton, Devon. — "Caveland Farm," 26 a. 2 r. 15 p., f. 925

By DEBENHAM, TEWSON, & Co.

Dulwich.—42 to 60 (even), Amott-rd., f., r. 288*l.* ... 4,120
21 to 29 (odd), Amott-rd., f., r. 164 1,950
41 and 43, Gowlett-rd., f., r. 56*l.* 810
41, 43, and 45, Amott-rd., f., r. 84*l.* 1,230
19, 21, 23, 37, 39, and 60, Keston-rd., f., r. 168*l.* 2,290
16, Hinckley-rd., f., r. 30*l.* 450
Bromley, Kent.—Three plots of building land, f. ... 2,440
Cubitt Town.—Manchester-rd., i.g.r. 70*l.*, u.t. 58¼ yrs., g.r. 20*l.*, with reversion 7,500
East Ferry-rd., i.g.r. 9*l.*, u.t. 58¼ yrs., g.r. nil, with reversion 170
565, 567, and 569, Manchester-rd., u.t. 58¼ yrs., g.r. nil 370
East Ferry-rd., i.g.r. 25*l.* 10s., u.t. 60 yrs., g.r. nil, with reversion 480
40 to 46 (even), East Ferry-rd., u.t. 60 yrs., g.r. nil 340
505, Manchester-rd., and a plot of land, u.t. 49¼ yrs., g.r. 3*l.* 15s. £11 0
509 to 517 (odd), Manchester-rd., u.t. 59¼ yrs., g.r. 19*l.* 11s. 3d. 370
66 and 68, Glengall-rd., u.t. 45¾ yrs., g.r. 6*l.* 8s. 160

By H. J. BROMLEY.

Stepney.—Eaton-pl., f.g.r. 21*l.*, reversion in 24 yrs. White Horse-lane, f.g.r. 10*l.* 5s., reversion in 24 yrs. 620
96, 98, 102 to 108 (even), f. 1,700
White Horse-lane, f.g.r. 5*l.*, reversion in 24 yrs. 3 350
Brixton.—4, Thurlow Pk.-rd., u.t. 65 yrs., g.r. 10*l.* 200
Dulwich.—6 and 8, Pk-rd., u.t. 48 yrs., g.r. 18*l.* 2s., r. 100*l.* 700
Chelsea.—4, Glebe-pl., u.t. 71 yrs., g.r. 7*l.*, r. 50*l.* 630
Battersea.—5, Queen Anne-ter., u.t. 81½ yrs., g.r. 10*l.*, r. 45*l.* 680
40, 42, and 44, Brougham-st., u.t. 70 yrs., g.r. 8*l.* 450
Lavender-rd., f.g.r. 46*l.*, reversion in 45 yrs. 470
1,250

By NEWBON & Co.

Bloomsbury.—69, Russell-sq., u.t. 49¾ yrs., g.r. 14*l.*, r. 180*l.* 1,900
Holloway.—15, Beacon-hill, u.t., 46 yrs., g.r. 8*l.* 8s., r. 45*l.* 385
Dalston.—71, Richmond-rd., u.t. 53½ yrs., g.r. 12*l.* r. 50*l.* 600
Islington.—43 and 45, St. Paul's-st., u.t. 31 yrs., g.r. 6*l.* 14s.. 6d, r. 80*l.* 690
26, Queen's Head-st., u.t. 40½ yrs., g.r. 5*l.*, r. 34*l.* 350
Hoxton.—61 and 63, Grange-st., u.t. 40 yrs., g.r. 10*l.* 10s. 595
St. Pancras.—13, Seymour-st., u.t. 14¼ yrs., g.r. 7*l.* 210

By A. W. CAPE.

Kingsland.—66, Downham-rd., u.t. 21½ yrs., g.r. 4*l.* 10s. 140

By H. L. HOWELL & Co.

Notting Hill.—26 and 27, Convent-gardens, u.t. 66 yrs., g.r. 16*l.* 210

By J. A. JONES.

Clapham.—33, Thornbury-rd., u.t. 85½ yrs., g.r. 6*l.* 5s., r. 33*l.* 295

By STIMSON & SONS.

Camberwell.—38, Cambria-rd., u.t. 77 yrs., g.r. 6*l.*, r. 30*l.* 260
79, St. Mark's-rd., area 8,400 ft., f. 1,300
Battersea.—24, 32, and 34, Knowsley-rd., u.t 74 yrs., g.r. 10*l.* 10s., r. 70*l.* 4s. 330
Peckham.—265 to 277 (odd), Southampton-st., u.t. 36 yrs., g.r. 47*l.* 0s. 6d., r. 220*l.* 1,640
2, Commercial-rd., u.t. 36 yrs., g.r. 15*l.*, r. 50*l.* 360
1 and 2, Eaton Cottages, u.t. 36 yrs., g.r. 26*l.* 10s., r. 80*l.* 8s. 205
Hackney.—46, Tudor-rd., u.t. 27 yrs., g.r. 4*l.* 4s., r. 30*l.* 210

By DOUGLAS YOUNG (at Streatham).

Streatham.—Farnan-rd., five building plots, f. 660
Madeira-rd., five building plots, f. 570
Oakdale-rd., 32 building plots, f. 6,025
147, Hopton-rd., f., r. 65*l.* 800
Deepdene-rd., an enclosure of land, 8a. 1 r. 12 p., f. 4,100
Deepdene-rd., "Roborough," f., r. 90*l.* 1,090
Deepdene-rd., &c., three building plots, f. 650
11, Oakdale-rd., f., r. 100*l.* 1,280
Grasmere-rd., five building plots, f. 780
Gleneldon-rd., five building plots, f. 530

By WILKINSON, SON, & WELCH (at Brighton).

Brighton.—18, George-st., f. 370
Hayward's Heath, Sussex.—"Bel-Air" and 3 a., f. 4,000

May 1.—By FURBER, PRICE, & FURBER.

Canonbury.—51, Clephane-rd., u.t. 50 yrs., g.r. 1*l.* 550
Fulham.—Star-rd., f.g.r. 10*l.* 10s., reversion in 69½ yrs. 230

By MATTHEWS & MATTHEWS.

Blackheath.—1, 3, 5, and 7, Blackheath Hill, u.t. 56 yrs., g.r. 40*l.*, r. 304*l.* 15s. 3,645

By SEGRAVE, BROWETT, & TAYLOR.

Herne Hill.—263 and 265, Norwood-rd., u.t. 75 yrs., g.r. 12*l.* 12s., e.r. 80*l.* 550
Beckenham.—45, Kingshall rd., u.t. 84 yrs., g.r. 7*l.* 7s., e.r. 48*l.* 490

By HARMAN BROS.

Hackney.—2, Oakfield-rd., f., e.r. 50*l.* 560
Clapton.—27, Median-rd., f., r. 28*l.* 490
Hackney.—29, The Broadway, u.t. 47 yrs., g.r. 6*l.* 5s., r. 70*l.* 810
Stoke Newington.—232, 234, 236, and 240, High-st., u.t. 77 yrs., g.r. 55*l.*, r. 485*l.* 6,430
7 and 8, Abney Pk.-ter., u.t. 77 yrs., g.r. 28*l.*, r. 200*l.* 2,430

By W. BOOTH (at Idle).

Idle, Yorks.—A freehold farm, containing 10½ acres 1,360

May 2.—By WOODS & Co. (at Northampton).

Wold, Northants.—Freehold farm containing 6 a. 1 r. 15 p. 500
Scaldwell, Northants.—Three enclosures of land, 21 a. 1 r. 25 p., f. 505

May 4.—By HAMPTON & SONS.

Hyde-pk.—49, Porchester-ter. and stabling, u.t. 42½ yrs., g.r. 31*l.* 4,050

By G. H. MASTERMAN & Co.

Streatham.—5, Mount Ephraim-rd., u.t. 58 yrs., g.r. 12*l.* 10

By E. G. ELLIS.

Crawley Down, Sussex.—"The Bays" and 4 a. 1 r. 32 p., f. 875

By G. B. HILLIARD & SON.

Dagenham, Essex.—Four enclosures of land, 12 a., f. 1,085
Laindon, Essex.—Farmhouse and enclosures, 42 a. 0 r. 27 p., f. 520

May 5.—By HUMBERT, SON, & FLINT.

Northwood, Middlesex.—"Walden," f., r. 65*l.* ... 1,210

By JOSHUA BAKER & SON.

Hendon.—Golders Green, "Golders Lodge" and 4 a., f. 2,000

By JONES, SON, & DAY.

St. George's East.—St. George-st., "New Gun Boat" beerhouse, f., r. 25*l.* 650
31, 33, and 35, Langdale-st., f., r. 65*l.* 660
6, William-st., f., r. 50*l.* 550
191 and 192, St. George-st., f., r. 63*l.* 610

By VENTOM, BULL, & COOPER.

Bloomsbury.—34, Devonshire-st., f., r. 50*l.* 950

By NEWBON & Co.

Wandsworth.—34 and 35, Swaffield-rd., f. 515
Thornton Heath.—St. Paul's-rd., "Belmont," and plot of land, f., r. 32*l.* 385
7, Ion-rd., u.t. 84 yrs., g.r. 5*l.* 5s., r. 18*l.* 150

COMPETITION, CONTRACTS, AND PUBLIC APPOINTMENTS.

COMPETITION.

Nature of Work.	By whom Advertised.	Premiums.	Designs to be delivered.
*Plans for Laying out Lands near Wellington	Lord Forester	50*l.* 25*l.* 15*l.*	Sept. 1

CONTRACTS.

Nature of Work or Materials.	By whom Required.	Forms of Tender, &c. Supplied by	Tenders to be delivered.
Warehouse, Engine House, &c. Lostock Junction, near Bolton	Lancs. & Yorks. Ry. Co	Engineer's Office, Hunt's Bank, Manchester	May 19
Two Houses, Marshall-street, Bridlington Quay	M. Lawson	J. Earnshaw, Archt. Wellington-road	do.
Engine House, &c. Cliffe-road	Bradford Corp.	J. H. Cox, Boro' Surv. Town Hall	do.
Hospital, Brierley Hill Estate	do.	do.	do.
Waterworks, Ullenhall	Stratford-on-Avon R.D.C.	H. C. Adams, C.E. Henley-in-Arden, Birmingham	do.
Alterations, &c to Premises, Norfolk-street, King's Lynn	Working Men's Co-op. Soc.	J. R. Fayers, Archt. Market-place	do.
Farm Buildings, Nansough, Ladock, Cornwall	.....	J. Jeffery, jun. Pencalenick, Truro	do.
Four Houses, Brunswick-street, Westborough, Dewsbury	.....	F. W. Ridgway, Archt. Bond-street, Dewsbury	do.
Houses, &c. Ardsley, near Barnsley	.....	Wade & Turner, Archt. 10, Pitt-street, Barnsley	May 20
Additions to Marine Hotel, Barry Island, Cardiff	.....	Gethin & Wallis, Archt. Westgate-street, Cardiff	do.
House, Bassenthwaite Lake, Cumberland	.....	Moffat & Bentley, Archt. Church-st., Whitehaven	do.
Three Houses, Dunfield-street, Waterside, Londonderry	.....	T. Johnson, Archt. 11, Eastnall, Londonderry	do.
Addition to Church, Woodville, Burton-on-Trent	.....	22, Friar-lane, Leicester	do.
Laying Water Mains	Brighouse (Yorks) T.C.	Town Clerk, Public Offices	do.
Hospital, Cottage, Laundry, &c.	Westbourne (Sussex) R.D.C.	N. C. H. Nisbett, Archt. High-street, Winchester	do
Five Houses and Shops, Station-lane, Wombwell, Yorks	S. Dook	J. R. Jinson, Surv. Park-cottages, Wombwell	do.
Farmhouses, Norton, Norfolk	N. H. Bacon	A. Pells, Archt. Beccles	do.
Two Shelters, Brinton Park	Kidderminster T.C.	A. Comber, Boro' Surv.	do.
Street Works, Hartley-street	Mexborough (Yorks) U.D.C.	Clerk, Council Offices	do.
Chapel Vestries, &c. Redruth	Trustees of Bible Christian Chapel	S. Hill, Archt. Redruth	May 21
Granite Road Metal	Lutterworth R.D.C.	J. C. Coates, Surv. Market-street	do.
School	Sale U.D.C.	A. G. McBeath, Surv. Council Offices	do.
*Painting, &c.	War Department (R.E. Liverpool)	R. E. Office, Rupert-lane Barracks, Liverpool	do.
Greenhouse, &c. Bowling Park	Bradford Corp.	J. H. Cox, Boro' Surv. Town Hall	do.
Lodge, Grenoside, Sheffield	Wortley R.D.C.	G. A. Wilde, Archt. Bank-street, Sheffield	do.
Paving Works, Brook-street, and Others, Pentre	Ystradyfodwg U.D.C.	W. J. Jones, Surv. Council Offices	do.
Two Houses, Glebe Estate, Hunstanton	.....	G. Fitt & Co. Archt. 1, Queen-street, Norwich	do.
Pumping Station, Garrison Walk	Gt. Yarmouth U.S.A.	J. W. Cockrill, Boro' Surv. Town Hall	May 22
*Brick Rubbish	Woking U.D.C.	C. J. Wooldridge, Surveyor's Office, Woking	do.
*Isolation Hospital	Hertford & Ware Joint Hospital Board	W. L. Grant, Sittingbourne	May 23
Shop, Corporation-road, Workington	Beehive Co-op. Soc. Lim.	W. G. Scott & Co. Archt. Victoria-buildings	do.
Cast-iron Mains	Towcester D.C.	W. Whitton, Town Hall	do.
Concrete Footpaths, Durham	Felling U.D.C.	H. Miller, C.E. Surv. Council Offices, Felling	do.
Main Sewer (2,200 yards)	Towcester D.C.	W. Whitton, Clerk, Town Hall	do.
Sewering, &c. Beaconsfield-road, Norwich	.....	B. B. Morgan, Archt. 6, Bank-street, Norwich	do.
Additions to School, Cockfield, Sussex	Managers of National Schools	J. S. Corder, Archt. Wimborne House, Ipswich	May 25
School Chapel, Shiphay, Collaton, near Torquay	W. H. Kitson	E. H. Harbottle, Archt. Exeter	do.
Additions to Asylum, Downpatrick	Lunacy Commissioners (Ireland)	P. C. Cowan, Archt. 48, Upper Arthur-st. Belfast	do.
Sewering, &c. Cairns-street, and others	Walsall Corp.	Boro' Surv. Town Hall	do.
Sewe, Dublin-street	Dundalk Union	J. Newton & Son, C.E. Manchester	do.
*Construction of Sewer and Formation of Roads	E. P. Trenchard, Esq.	H. D. Searles-Wood, 157, Wool Exchange, E.C.	May 26
Alterations, &c. to Wesleyan Chapel, St. Ives, Cornwall	Trustees	O. Caldwell, Archt, Penzance	do.
*Painting, &c.	St. Giles & Bloomsbury Guardians	Offices, 57, Broad-st. W.C.	do.
*Roadmaking and Paving	Willesden D.C.	O. C. Robson, Public Offices, Dyne-road, Kilburn	May 27
*Electric Light Station	Hammersmith Vestry	H. Mair, Vestry Offices	do.
*Paving Road	Fulham Vestry	C. Botterill, Town Hall, Walham Green, S.W.	do.
Kerbing, Flagging, &c. Crown-lane	Horwich (Lancs.) U.D.C.	J. E. Jackson, Surv. Public Hall	do.
Sewer	Carnforth U.D.C.	J. Atkinson, Surv.	do.
*Paving	Greenwich B. of W.	141, Greenwich-road, S.E.	do.
*Drainage of Asylum, Caterham	Metropolitan Asylums Board	Norfolk House, Norfolk-street, Strand, W.C.	May 28
*Tar Paving	Ramsgate T.C.	Boro' Surv. Broad-street, Ramsgate	do.

CONTRACTS—*Continued.*

Nature of Work or Materials.	By whom Required.	Forms of Tender, &c. Supplied by	Tenders to be delivered.
Store Buildings, St. John's-road, Huddersfield	Wallaces, Limited	Kirk & Sons, Archt. Huddersfield	May 28
Tar Paving (4,000 yards)	Ramsgate Town Coun.	W. A. Hubbard, Town Clerk	do.
Waterworks, Coldstream, Carluke, N.B.	Commissioners	J. M'Callum, Boro' Surv. Town Hall, Motherwell	do.
*Villa Residence and Stabling, Southend	H. Brown, Esq.	Thompson & Greenhalgh, 37, High-st. Southend	do.
Schools, Residence, &c. near Newbury	Chieveley Sch. Board	W. H. Bell, Archt. Market-place, Newbury	do.
School	Great Rissington (Glos) School Board	Knight & Chatters, Archt. Cheltenham	May 29
*Kerbing, Channelling, &c.	Windsor R.D.C.	W. Menzies, Englefield Green, Surrey	do.
Welsh Macadam, Liverpool	Childwall High. Bd.	C. Spenceley, 2, South John-st. Liverpool	May 30
Hill Chimney, Stannary Mills, Halifax	.....	Horsfall & Son, Archts. Lord-st. Clmbrs, Halifax	do.
*Wesleyan Church, Fortune's Well	Rev. G. Reid	Wesleyan Manse, Portland	do.
*Postal Sorting Office, Anerley	Com. H.M. Works	12, Whitehall-place, S.W.	do.
Schools, Taylor's Hill, Galway	Nuns of Dominican Convent	Jas. Perry, C.E. Galway	June 1
Twenty-seven Houses, Rawtenstall, Lancs	Cawl-terrace Indus. Soc.	G. Nightingale, Archt. Rawtenstall	do.
*Extensions Schools of Art	Manchester Corp.	J. H. Reynolds, Princess-street, Manchester	do.
*Sewerage Works	Romford U.D.C.	Brundell, Simmons, & Brundell, 1, Princes-st. Doncaster	do.
*Guernsey Granite and Kentish Flints	Barking Town U.D.C.	E. J. Dawson, East-street, Barking	do.
*New Laundry, &c.	Kingston Guardians	W. H. Hope, Union Offices, Portsmouth-road	do.
*Covering Service Reservoirs	Southampton Corp.	W. Matthews, Municipal Offices	June
*Baths, Arcade, Shops, &c.	Southend-on-Sea Corp.	Thompson & Greenhalgh, High-street, Southend	do.
*Cutting Trenches, Excavations, &c.	Merthyr Tydfil U.D.C.	T. F. Harvey, Merthyr Tydfil	do.
*Effluent Tanks, Weirs, &c.	Brentford U.D.C.	Nowell Parr, Clifden House, Boston-road, Brentford	do.
Granite Road Metal, near Lutterworth	Monks Kirby R.D.C.	J. C. Coates, Surv. Market-street, Lutterworth	June 4
*Reconstruction of Baths and Washhouses	St. Mary (Islington) Vestry	A. H. Giltman, 6, John-st. Bedford-row, W.C.	do.
*Lighthouse, Northumberland	Trinity House Corp.	Lights Dept. Trinity House, E.C.	June 8
*Sewerage Works	Erith U.D.C.	G. Chatterton, 46, Queen Anne's Gate, S.W.	do.
*Additions and Alterations to Hospital	Leyton, Walthamstow, & Wanstead Hospital Council	W. A. Longmore, 7, Gt. Alie-street, E.	do.
Four Cottages, Claydon, Suffolk	Thos. Moy, Limited	T. W. Cotman, Archt. Northgate-street, Ipswich	No date
Five Cottages, Cliffe-street, Nelson, Lancs	T. Catlow	W. & J. P. Dent, Archt. Nelson	do.
Buildings for Electric Lighting Plant, near Gisburn	C. J. Massey	C. Parsons, Archt. 9, Grimshaw-street, Burnley	do.
House and Shop, West Park, Harrogate	G. Goodrick	A. A. Gibson, Archt. Yorkshire Bank-chambers, Harrogate	do.
Semi-detached Villas, Northwood, Middlesex	.....	F. M. Roberts, Archt. 156, Regent-street, W.	do.
Shop and Warehouse, Carlisle	.....	G. Boyd, The Hollies, Dalston, Carlisle	do.
School Chapel, Oakworth-road, Keighley	.....	J. Haggas, Archt. North-street, Keighley	do.
Extension of Old Brewery, Tadcaster	.....	Bromet & Thorman, Archt. Tadcaster	do.
Residence, Surbiton	.....	R. L. Pearce, Archt. 100c, Queen Victoria-st. E.C.	do.
Residence, Lodge, &c. Lenton Park, Nottingham	.....	Marshall & Turner, Archt. Nottingham	do.

PUBLIC APPOINTMENTS.

Nature of Appointment.	By whom Advertised.	Salary.	Applications to be in
*Clerk of Works	Gt. Clacton and Little Holland S.B.	37. 3s. per week	May 13
*Waterworks Resident Engineer	Kendal Corporation	200*l.* to 300*l.* per month	do.
*Boro' Surveyor and Water Engineer	Blackburn Corporation	700*l.* per annum, Office, Clerks, &c.	May 15
*Clerk of Works	Epsom, Sutton, &c. Joint Hospital Board		do.
*Clerk of Works	Feltham Industrial School	2*l.* 10s. per week, Lodgings, Uniform, Coal, Light, and Medical Attendance	May 16
*Temporary Assistant as Engineer and Clerk of Works	Llandudno U.D.C.	2½ Guineas per week	May 20
*Building Superintendent	L.B. & S.C. Railway	200*l.* per annum	May 21
*Chief Engine Driver and Fitter	Tottenham U.D.C.	2*l.* 5s. per week, House, Coal, and Gas	May 22
*Clerk of Works	Wolverton P.C.	50s. per week	May 27
*Inspector of Nuisances, &c.	Ledbury U.D.C.	75*l.* per annum	June 1
*Inspector of Nuisances	King Williams Town T.C. Cape Colony	First year, 120*l.*; second, 150*l.*; third, 180*l.*	No date
*Clerk of Works	Borough of Shoreditch	3*l.* 3s. per week	do.

Those marked with an asterisk (*) are advertised in this Number. ***Competition, p. iv.*** ***Contracts, pp. iv., vi., viii., & ix.*** ***Public Appointments, pp. xviii., xix, & xx.***

Peckham.—3, Somerville-rd., u.t. 52½ yrs., g.r. 5*l.* 10s., r. 26*l.* £220
Camberwell.—3, Fearnley-rd., u.t. 69 yrs., g.r. 6*l.* r. 26*l.* 200
Anerley.—2, Alie-villas and piece of land, u.t. 90 yrs., g.r. 20*l.*, r. 32*l.* 100
Walthamstow.—44 and 46, Hervey Pk.-rd., u.t. 88½ yrs., g.r. 8*l.* 8s. 180
Whitechapel.—6, Great Alie-st., u.t. 11¼ yrs., g.r. 40*l.*, r. 110*l.* 250
56, Lambeth-st., u.t. 69 yrs., g.r. 20*l.*, r. 60*l.* 400
Tottenham.—118 to 124 (even), Pk.-lane, f., r. 76*l.* 1,090
Barnsbury.—46, Richmond-rd., u.t. 40 yrs., g.r. 7*l.*, r. 52*l.* 10s. 375
Highbury.—28 and 30, Framfield-rd., u.t. 96 yrs, g.r. 16*l.*, e.r. 84*l.* 570
By FIELD & BLADES (at Mason's Hall Tavern).
Pimlico.—Lupus-st., i.g.r. 24*l.*, u.t. 36½ yrs., g.r. 1*l.*, with reversion for 6¾ yrs. 1,600
Sussex-st., i.g.r. 45*l.*, u.t. 36 yrs., g.r. 1s., with reversion for 5¾ yrs 2,000
Westmoreland-st., i.g.r. 50*l.*, u.t. 38¾ yrs., g.r. 1*l.*, with reversion for 3½ yrs. 2,000
Sutherland-st., i.g.r. 50*l.*, u.t. 34 yrs., g.r. 1*l.*, with reversion for 7¾ yrs. £2,500
Bessborough-pl., i.g.r. 35*l.*, u.t. 30¼ yrs., g.r. 3*l.*, with reversion for 16¾ yrs. 3,000
By HEPPER & SONS (at Leeds).
Leeds.—40 to 48 (even), Pepper-lane, and 18 to 26 (even), Iveridge-ter., f., r. 136*l.* 10s. 1,310
By J. HART BRIDGES & SONS (at Ipswich).
Harwich, Essex.—"The Pier Hotel," f., r. 170*l.* ... 3,500
By SALES & WILTSHIRE (at Lewisham).
Lewisham.—44, Avenue-rd., f., r. 20*l.* 330
May 6.—By DUNN & SOMAN.
Leytonstone.—Kirkdale-rd., "Elm Lodge," f., r. 72*l.* 1,200
By G. PRATT.
Leyton.—23 and 25, Grange Pk-rd., u.t. 69½ yrs, g.r. 5*l.*, r. 36*l.* 8s. 250
Victoria Docks.—48, Frederick-rd., u.t. 86 yrs., g.r. 6*l.* 130
Peckham.—50, Philip-rd., u.t. 68½ yrs., g.r. 5*l.* ... 225
By J. A. & W. THARP.
Willesden.—3, Dean-rd., u.t. 84 yrs., g.r. 8*l.*, e.r. 65*l.* 600
Tottenham.—White Hart-lane, fifteen building plots, f. £1,385
Bromley.—56, 58, 60, and 62, Ettrick-st., u.t. 77 yrs., g.r. 17*l.* 680
By G. BILLINGS.
Clapton.—Overbury-st., f.g.r. 10*l.*, reversion in 84½ yrs. 255
Chingford.—Stanley-rd., f.g.r. 27*l.*, reversion in 86½ yrs. 6.8
Victoria Pk.—Percy-ter., f.g.r. 48*l.*, reversion in 72 yrs. 1,030
318, 326, 328, and 330, Wick-rd., u.t. 57½ yrs., g.r. 10*l.* 17s. 760
By DOUGLAS YOUNG.
Streatham.—62 to 82 (even), Barrow-rd., u.t. 86½ yrs., g.r. 51*l.*, r. 495*l.* 4,755
17 to 37, 41 to 69 (odd), Barrow-rd., u.t. 86½ yrs., g.r. 114*l.*, e.r. 1,225*l.* 11,735
81, 83, and 85, Barrow-rd., u.t. 86½ yrs., g.r. 15*l.*, r. 145*l.* 1,345
103 and 105, Barrow-rd., and six houses in Ellison-rd., u.t. 86½ yrs., g.r. 30*l.*, r. 294*l.* 2,640

By Messrs SPELMAN (at Norwich).
Norwich.—St. George's Middle-st., freehold house and shop, and two houses adjoining, r. 29*l.*
10s. 4d. £260
27, Bethel-st., f., r. 18*l.* 245

[Contractions used in these Lists.—F.g.r. for freehold ground-rent; l.g.r. for leasehold ground-rent; i.g.r. for improved ground-rent; g.r. for ground-rent, r. for rent; f. for freehold; c. for copyhold; l. for leasehold; e.r. for estimated rental; u.t. for unexpired term; p.a. for per annum; yrs. for years; st. for street; rd. for road; sq. for square; pl. for place; ter. for terrace; cres. for crescent; yd. for yard, &c.

PRICES CURRENT OF MATERIALS.

TIMBER.		
Greenheart, B.G.	ton	8/0/0 0/0/0
Teak, E.I.	load	11/0/0 16/0/0
Sequoia, U.S.ft.cu		2/0 2/1
Ash, Canada load		3/5/0 4/10/0
Birch, do.		3/10/0 5/5/0
Elm, do.		4/0/0 5/5/0
Fir, Dantsic, &c.		1/10/0 8/0/0
Oak, do.		2/5/0 3/15/0
Canada		6/0/0 7/10/0
Pine, Canada red		0/0/0 0/0/0
Do. Yellow		2/15/0 5/0/0
Lath, Dantsic, fath		4/10/0 5/10/0
St. Petersburg		5/0/0 6/10/0
Wainscot, Riga &c., log		2/5/0 4/10/0
Odessa, crown		2/5/0 4/10/0
Deals, Finland and 1st std	100	7/10/0 9/0/0
Do. 4th & 3rd		7/10/0 8/10/0
Do. Riga		7/10/0 8/10/0
St. Petersburg, 1st yellow		10/10/0 13/0/0
Do. 2nd yellow		8/10/0 10/10/0
Do. white		8/1/0 10/0/0
Swedish		7/10/0 16/0/0
White Sea		8/10/0 15/10/0
Canada, Pine 1st		23/5/0 23/10/0
Do. do. 2nd		16/0/0 17/0/0
Do. do. 3rd, &c.		8/0/0 10/15/0
Do. Spruce, 1st		9/0/0 10/10/0
Do. do. 3rd and 2nd		7/10/0 8/10/0
New Brunswick		7/0/0 8/0/0
Battens, all kinds		5/0/0 20/0/0
Flooring boards, sq., 1 in. prep. 1st		0/10/0 0/15/0
Do. 2nd		0/6/0 0/12/0
Other qualities		0/5/6 0/7/0
Cedar, Cuba, .ft.		4½ /5
Honduras, &c.		/4 /5
Mahogany, Cuba		4½ /6
St. Domingo cargo av.		4½ 1/3
Mexican, do. do.		/4 /5
Tobasco, do. do.		/5 /7
Honduras, do.		/5 /9½
Box, Turkey	ton	4/0/0 15/0/0
Rose, Rio		7/0/0 16/0/0
Bahia		6/0/0 15/0/0
Satin, St. Doming		0/0/7 0/1/0

TIMBER *(continued)*.		
Satin, Porto Rico		0/0/7 0/1/6
Walnut, Italian		0/0/3 0/1/7
METALS.		
Iron—Pig, in Scotland	ton	2/6/4 0/0/0
Bar, Welsh, in London		5/12/6 5/15/0
Do. do. at works in Wales		5/2/6 5/5/0
Do. Staffordshire, in London		6/0/0 6/10/0
COPPER—British cake and ingot		49/5/0 49/10/0
Best selected		49/15/0 50/5/0
Sheets, strong		56/0/0 0/0/0
Chili bars		45/15/0 46/0/0
YELLOW METAL	lb	0/0/4⅜ 0/0/5⅛
LEAD—Pig, Spanish	ton	11/0/0 11/1/3
English com. brands		11/2/6 11/5/0
Sheet, English 6 lbs. per sq. ft. and upwards		12/0/0 0/0/0
Pipe		12/10/0 0/0/0
ZINC—English sheet	ton	18/10/0 0/0/0
Vieille Montagne		19/10/0 0/0/0
TIN—Straits		59/10/0 60/0/0
Australian		60/15/0 61/5/0
English Ingots		63/10/0 64/0/0
Banca		61/0/0 61/10/0
Billiton		60/10/0 60/15/0
OILS.		
Linseed	ton	18/7/6 19/0/0
Cocoanut, Cochin		26/15/0 0/0/0
Do. Ceylon		22/15/0 0/0/0
Palm, Lagos		20/10/0 1/0/0
Rapeseed, English pale		23/0/0 24/0/0
Do. brown		21/10/0 21/15/0
Cottonseed ref.		16/0/0 16/10/0
Oleine		18/0/0 18/10/0
Lubricating U.S.		6/6/0 9/0/0
Do. black		4/9/0 6/6/0
TAR—Stockholm	barrel	19/6 1/0/0
Archangel		0/14/6 0/15/0

TENDERS.

[Communications for insertion under this heading should be addressed to "The Editor," and must reach us *not later than* 10 *a.m. on Thursdays*. N.B.—We cannot publish Tenders unless authenticated by the name and address of the sender: and we cannot publish announcements of Tenders accepted unless the amount of the Tender is given, nor any list in which the lowest Tender is under £100, unless in some exceptional cases and for special reasons.]

ALNWICK.—Accepted for alterations to premises, Bondgate-hill, for Messrs. Akeroyd & Hume. Mr. Geo. Reavell, jun., architect, Alnwick. No quantities.

Masonry.—C. Thompson & Son	£110 0 0
Joinery.—Charles Nettleship	232 0 0
Slating.—Thompson & Wright	6 14 6
Plastering.—Thomas Wood	34 16 9
Plumbing.—Wilkin & Dickman	94 2 0
Heating Engineering.—J. N. Reavell	29 18 0
Painting.—J. Wallace	34 17 0
Total	£542 8 3

[All of Alnwick.]

BARNSLEY.—Accepted for the erection of five houses, Station-road, Summer-lane, for the Barnsley British Co-operative Society. Messrs. Senior & Clegg, architects, 15, Regent-street, Barnsley:—

Masons' Work.—J. Medley & Son, Barns'ey	£577 17
Joiners.—W. G. & L. England, Barnsley	242 0
Plasterers.—Cordingley & sons, Bradford	65 10
Plumbers.—W. Dransfield, Barnsley	29 15
Slaters.—E. Fleming. Barnsley	56 15
Painters.—Snowden & Son Barnsley	15 10

BIRMINGHAM.—For additions and alterations to Aston Brewery, for Messrs. Ansell & Sons, Limited. Messrs. Inskipp & Mackenzie, architects, 5, Bedford-row, London, W.C.:—

Squires	£1,745	Moorhouse	£1,320
Bamsley & Son	1,388	W. & J. Webb*	1,282
Jeffery & Son	1,339		

* Accepted.

BOURNEMOUTH.—For new kiosk on the Pier Head, Bournemouth. Mr. F. W. Lacey, Borough Engineer and Surveyor:—

Jones & Son	£898	Entwisle & Cox	£600
George & Harding	885	W. J. Chinchen (informal)	595
D. Drake, Ltd.	635	McWilliam & Son*	545

* Accepted.

BOURNEMOUTH.—Accepted for erecting five shops, Christchurch-road, for Mr. A. Beckitt. Messrs. Moore & Pearse, architects:—

W. J. Chinchen, Bournemouth £3,500

BOURNEMOUTH.—For additions to the Petty Sessional Court Mr. J. Robinson, County Surveyor, Winchester:—

Miller & Son	£1,013 8 2	J. W. Lucas	£789 0 0
F. Hoare & Son	900 0 0	Jenkins & Son	768 0 0
Jones & Son	839 10 0	W. J. Chinchen*	700 0 0

* Accepted.

BUSHEY (Herts).—For new stables, alterations, and decorating to the residence of Mr. Richard Thomas. Mr. E. Gough, surveyor, Whitehall:—

Steed	£1,219	Mitchel	£649
A. Wilson	1,215	Irwin, City-road *	825
Bywaters	1,180		

* Accepted.

CHARING (Kent).—For two residences at Charing, near Ashford, Kent, for the Kent County Constabulary. Mr. F. W. Ruck, architect, County Surveyor:—

Knock	£559 0 0	Edwards	£506 0 0
Wilkins	549 10 0	H. J. Smith	500 5 0
Coast	507 19 9		

CHISLEHURST.—For shop and premises at Chislehurst West. Messrs. Potts, Son, & Hennings, architects:—

Rider & Son	£1,127	J. Otway	£975
T. Knight	1,069	Lorden & Son	969
S. Jerrard	987	White & Son, Chislehurst*	846

* Accepted.

CLAYTON-LE-MOORS (Lancs.).—Accepted for sewering, levelling, paving, &c., Back Barnes, and other streets, for the Urban District Council. Mr. Arthur Dodgeon, Surveyor, Council Offices, Clayton-le-Moors:—

Back-street Works.

Exors. of A. Broadley, Clayton-le-Moors. At schedule of prices.

Whalley-road Paving.

Exors. of A. Broadley, Clayton-le-Moors. At schedule of prices.
M. J. Dewhurst, Blackburn. At schedule of prices.

CLEETHORPES (Lincs.).—For the execution of road works, Elm-road, &c., for the Cleethorpes-with-Thurnscoe Urban District Council. Mr. E. Rushton, surveyor, Poplar-road, Cleethorpes:—

C. A. Walker	£1,145 4 0	B. Robinson, West Parade, Nottingham*	£821 18 11½
Asphaltic Limestone Concrete Company	1,088 12 11	J. H. Vickers	821 5 1
Hobman & Co.	1,076 18 10	Brunton & Son, Lime-street, Hull†	809 19 10
W. Wade	973 2 0	T. Wilkinson‡	542 13 6
T. Chapman	966 4 2		
Hearns & Goodhand	896 1 3		

* Accepted for 4, 5, and 6, for £126. 1s. 7d.
† Accepted for 1, 2, and 3, for £645. 6s. 9½d.
‡ Contracts 1, 2, 5, and 6 only.

EAST PRESTON (Sussex).—For the erection of wards and alterations to infirmary buildings, for the Union Guardians. Mr. H. Howard, architect, Town Offices, Littlehampton:—

C. Curd	£796 0	Linfield & Son	£686 18
P. Peters & Son	770 0	A Burrell	682 0
W. Wallis	737 0	Cook & Son, Crawley*	659 0
Snavin Bros.	658 0		

* Accepted.

ELSTREE.—For painting and decorating and repairs at Abbott's Mead, Elstree, Herts., for Mr. E. Ashley Haws. Mr. S. P. Thompson, architect.

J. W. Davis	£385 19	Maple & Co.	£259 15
Messrs. Dunn	278 0		

GOLCAR.—Accepted for a new Baptist Sunday School, Golcar. Mr. Joseph Berry, architect, 9, Queen-street, Huddersfield.

Masonry.—A & T. Haigh, Golcar	Total cost, £2,500
Joinery.—W. Lockwood, Golcar	
Plastering and Painting.—W. Armitage, Golcar	
Plumbing and Glazing.—J. Marsden, Huddersfield	
Slating.—T. Longbottom & Son, Lockwood	
Concreting and Wood Block Flooring.—J. Cooke, Little Royd	
Ironfounding.—G. W. Crosland & Co., Huddersfield	
Hot-Water Engineering.—F. Milan, Lockwood	

GUILDFORD.—For new drainage at Stoke Hill, for the Rev. Francis Paynter, M.A. Mr. John Lake, surveyor, Bridge-street, Guildford:—

Higlett & Hammond £354

HARLINGTON (Beds.).—For additions, &c., to school buildings, for the School Board. Mr. Alfred Wildman, architect, Ampthill:—

J. S. White	£269 0	W. T. Sharpe	£194 19
Daniel Mann & Sons	239 0	G. E. Fathers	183 10
Geo. Kingham	215 10	Thos. Mucklestone, Toddington*	175 0
Jas. Ayre	198 15		

* Accepted.

HECKMONDWIKE.—For forming, paving, and channelling part of Church-street, for the Urban District Council. Mr. James Saville, Surveyor, Council Offices, Heckmondwike. Quantities by Surveyor:—

Wm. and Henry Oldroyd	£352	Abram Graham & Sons, Huddersfield*	£333

[Surveyor's estimate, £339.]
* Accepted.

HOLMFIRTH (Yorks).—For the erection of warehouse, offices, &c., Digley Mills, for Messrs. Joseph Greenwood & Sons. Mr. Joshua Barrowclough, architect, Cross-roads, Holmfirth. Quantities by the architect:—

Masonry.—E. England & Sons, Holmfirth	£1,288 0 0		
Joinery.—E. Holdroyd & Sons, Honley	471 0 0		
Concreting.—J. Cooke, Huddersfield	219 14 4		
Iron Founders.—J. & J. Longbottom, Holmfirth	128 0 0		
Patent Glazing.—Messrs. Heywood & Co., Huddersfield	109 7 6		
Plumbing and Glazing.—E. Thorpe, Holmfirth	82 10 0		
Plastering.—John Bottomley, Holmfirth	52 0 0		
Painting.—Dan Hinchliffe, Holmfirth	18 5 5		
Total	£2,368 17 3		

Architect's valuation, including slates, which have to be provided and paid for in addition by the proprietors, £2,669.

HOLMFIRTH.—For the construction of storage reservoir, Digley Mills, for Messrs. Joseph Greenwood & Sons. Mr. Joshua Barrowclough, architect, Holmfirth. Quantities by the engineer:—

Willie Booth, Hillhouse, Holmfirth £1,528
Seven tenders were sent in ranging from the above to £2,500.
Engineer's valuation £1,568.

KEIGHLEY.—Accepted for the erection of four houses, Park Wood Bottom. Mr. John Haggas, architect, North-street, Keighley:—

Masonry.—Sunderland & Greenwood, Haworth, near Keighley	£930
Joinery.—I. Wilkinson, Oakworth, near Keighley	
Slating.—Wm. Thornton, Bingley	
Plastering.—Forrest & Antrum, Park Wood-street, Keighley	
Plumbing.—J. W. Clough, Fleece-street, Keighley	

LITTLEHAMPTON (Sussex).—For the construction of storm-water reservoir, &c., for the Urban District Council. Mr. H. Howard, surveyor, Town Offices, Littlehampton:—

P. Peters & Son	£2,000	Jas. Dickson	£1,955
W. Wallis	1,597	Pedrette & Co., S. Heliers*	1,212
A. Burrell	1,590	A. Kellett, Worthing†	820

* Accepted. † Withdrawn.

LONDON.—For alterations and repairs to superintendent's lodge, Victoria Park, for the London County Council:—

F. & F. J. Wood	£471 0 0	J. & W. Turnpenny	£384 0 0
W. Shurmur	459 0 0	J. Yates	380 15 11
Coulsell Brothers	453 0 0	H. H. Sherwin*	372 0 0

* Accepted.

LONDON.—For alterations, &c., at the Old Kent-road Fire Brigade Station, for the London County Council:—

J. F. M. Patrick	£650	R. E. Williams & Sons	£533
F. G. Minter	609	T. Lapthorne & Co.	526
Elkington & Co.	595		

LONDON.—Accepted for erecting the Wheatsheaf Hall, South Lambeth. Mr. Robert Williams, architect, 17, Effingham-road, S.E. Quantities by Mr. Morris Evans, 7, John-street, Adelphi, W.C.:—

Higgs & Hill, South Lambeth £3,496
[No competition.]

LONDON.—For alterations and additions to No. 31, Newman-street, W., for Messrs. Huxtable & Co. Mr. A. Whitcombe, architect:—

Davenell	£820 0	Perkins	£757 0
Lilley	768 0	Beaver Bros.*	735 10

* Accepted subject to alterations.

LONDON.—For alterations and new bar fittings for Mr. E. Coles, "The Swan," Stockwell, S.E. Mr. J. Jackson, architect and surveyor:—

Colson	£2,583	Simpson & Cove	£2,259
Rise	2,383	Edwards & Midway	2,240
Rowe	2,373	Whitehead & Co	2,200
Hibberd Bros.	2,334	Chapman	1,877

LONDON.—For the completion of the substructure, and erection of the superstructure, for the new Institute House, for the Institute of Mechanical Engineers. Mr. Basil Slade, architect, 3, Grosvenor-street, W. Quantities prepared by Messrs. Dunk & Bousfield, surveyors, Billiter-square Buildings, E.C.:—

Messon	£29,777	Perry & Co.	£27,990
Lovat	29,445	Holland & Hannen	27,944
Mowlem & Co	28,620	Lawrance & Son	26,782
Bywaters & Sons	28,278		

Foundations and substructure are being built by Mr. N. Fortescue, of Mare-street, Hackney.

LONDON.—For the erection of Board-room and offices for the West Ham School Board, the Broadway, Stratford, E. Mr. W. Jacques, architect:—

White	£16 241	Maddison	£14,374
Nightingale	15,655	Sharp	14,232
Battley & Son	15,280	Gregar	13,904
Stimpson & Co.	14,700		

LONDON.—For alterations and additions to premises, 205, 207, 209, and 211, Lewisham High-road, New Cross, for Messrs. Plummer & Co. Mr. John James Downes, architect, 199, Lewisham High-road, S.E.:—

R. Soper	£1,195 0	S. R. Best	£944 15
S. J. Jerrard & Sons	1,089 0		

LONDON.—For pair of villa residences, George-lane, Catford, for Mr. J. Ley. Mr. John James Downes, architect, 199, Lewisham High-road, S.E.:—

Hall Bros.	£1,019	R. Soper	£750
J. Laind	794		

LONDON.—For alterations to "Red Lion" public-house, No. 44 Cow Cross-street, E.C. Mr. Edward Monson, architect, Acton Vale, W.:—

George Lyford	£1,150	H. & F. Fearman	£925
Godson & Sons	1,067	Lascelles & Co., Bunhill-row, E.C. (accepted)	887
Taperell & Davis	949		

LONDON.—For the erection of a ball-room suite and banqueting hall at the Royal Palace Hotel, Kensington (exclusive of decoration). Messrs. H. S. Legg & Son, architects, Christ's Hospital, E.C. Quantities by Mr. Kennett:—

Martin Wells	£23,000	Perry & Co.	£21,700
Colls & Son	22,955	Kearley	21,498
Morris & Son	22,950	Bywaters & Son*	21,343
Patman & Fotheringham	21,950	Stevens	21,100

* Accepted.

LONDON.—Accepted for the erection of stables and coach-house, Bunfield Lodge, Archway-road, for Mr. J. Coles:—
Beaver Bros. £359

LONDON.—For the execution of road-works, Fuller-street, &c., for the Hendon Urban District Council. Mr. S. S. Grisley, Engineer, the Burroughs, Hendon, N.W.:—

Hendon Paving Contract No 8.

	Hermitage-lane.	Finchley-road.	Church-end and Church-walk.	Total.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.
S. Hudson	365 13 3	421 10 11	237 3 0	1,024 7 2
A. C. W. Hobman & Co.	363 6 3	404 2 1	189 5 10	956 14 2
Thomas Adams	362 17 6	392 12 0	194 17 2	950 6 8
J. Allen & Sons	360 10 0	401 13 11	176 2 6	938 6 5
E. W. Hollingsworth	353 17 8	371 14 3	205 4 6	930 16 5
Nowell & Robson	346 2 7	396 7 6	177 7 8	919 17 9
A. T. Catley	340 13 0	349 1 0	221 11 0	910 15 0
R. Ballard, Ltd., Child's Hill (accepted)	323 19 8	369 8 2	170 18 9	864 6 7
Surveyor's Estimate	310 2 0	391 19 8	176 9 10	878 11 6

Private Improvements Contracts Nos. 19 a, b, c, and d.

	Fuller-street.	Foster-street.	Foster-place.	Oak-grove.	Total.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
A. C. W. Hobman & Co.	469 11 4	405 0 3	165 0 5	348 12 7	1,388 4 7
S. Hudson	450 16 9	389 6 11	178 8 8	351 8 7	1,370 0 11
Thomas Adams	421 3 10	366 12 3	163 9 0	324 2 0	1,272 7 1
A. T. Catley	395 0 0	335 13 0	166 0 0	262 4 0	1,158 17 0
J. Allen & Son	398 16 2	345 17 10	147 2 10	320 10 6	1,212 7 4
E. W. Hollingsworth	399 0 0	347 0 0	158 0 0	294 0 0	1,198 0 0
R. Ballard, Ltd., Child's Hill (accepted)	371 11 9	316 10 8	134 4 5	268 19 6	1,091 6 4
Surveyor's Estimate	369 14 1	347 4 9	110 15 11	305 19 8	1,133 14

LONDON.—For alterations to the Royal Palace Hotel, Kensington. Messrs. H. S. Legg & Son, architects, Christ's Hospital, E.C. :—

Hayward & Son	£584 16	Patman & Fotteringham*	£531

Fittings.

Parker & Son*	£112

* Accepted.

MERTON.—For the erection of the first portion of a new boys' school, including central hall and boundary walls and gates, at Church-road, Merton Abbey, for the Mitcham School Board. Mr. H. P. Burke Downing, architect, 7, Great College-street, Westminster. Quantities by Messrs. John Leaning & Sons, of Bedford-row, W.C. :—

James Smith & Sons	£6,221	Garrett & Sons	£5,744
D. Charteris	6,029	H. Wall & Co.	5,605
Lathey Bros.	6,021	E. C. Saunders	5,577
E. C. Burnand	5,989	Peters & Son	5,576
W. H. Lorden & Son	5,964	J. B. Potter, Sutton*	5,496

* Accepted provisionally and subject to the approval of the Education Department.

POTTERS BAR.—For the erection of vicarage at Christ Church, Little Heath, Potters Bar, Herts, for Rev. Arthur Mercer, M.A., Vicar. Mr. J. R. Manning, architect, Milkwood Estate Office, Herne Hill, S.E. Quantities by the architect :—

J. Allen & Son	£2,144	J. O. Richardson	£1,958
Holliday & Greenwood	2,040	J. Willmott & Son	1,910
F. & H. F. Higgs	1,987	Battley, Son, & Holness	1,824
J. Bentley	1,975	S. Warboys	1,690

SHACKLEFORD.—For additions and alterations to the Shackleford Institute, for the Building Committee. Mr. John Lake, architect, Bridge-street, Guildford :—

Heal & Jackson	£347

SOUTHAMPTON.—For the construction of precipitating tanks for the Corporation. Mr. W. B. G. Bennett, C.E., Municipal Offices, Southampton :—

F. Reeks	£8,130	Jenkins & Sons	£7,187
W. H. Saunders & Co.	7,818	H. W. Bull	7,145
B. Cooke & Co.	7,554	Playfair & Toole, Southampton*	7,135
Roe & Grace	7,400		
F. Osman	7,262		

* Accepted.

SPILSBY (Lincs.).—For supplying and laying York stone and concrete slabs, for the Rural District Council. Mr. F. J. Dixon, District Surveyor, Spilsby :—

Jabez Rime	£166	Croft Granite, Brick, and Concrete Co., Croft, near Leicester (accepted)	£124
Patent Victoria Stone Co., Ltd.	126	Patent Indurated Stone Co., Ltd. (paving only)	87

STANSTEAD ABBOTTS.—For the erection of New Malting at Stanstead Abbotts, Herts., for Mr. D. Jupp. Messrs. Inskipp & Mackenzie, architects, 5, Bedford-row, London, W.C. :—

F. Hitch	£5,882	A. Brown	£4,850 0
W. Watson	5,275	P. Banyard	4,847 10
J. A. Hunt	4,894		

STAPLEHURST.—For the erection of two entrance lodges at "Iden Manor," for Mr. W. Hoare. Mr. John Lake, Bridge-street, Guildford :—

Brattle	£1,089	Brooks	£889
Wickings*	920		

* Accepted.

STOURBRIDGE.—For the execution of sewerage works for the Upper Stour Valley Main Sewerage Board. Messrs. Marten & Fiddian, engineers, Church-street Chambers, Stourbridge :—

George Bell	£10,006 13 0	Thomas Vale	£8,477 13 8
John Mackay	9,920 11 7	Jones & Fitzmaurice, Birmingham*	8,266 0 0
George Law	9,785 8 1		
Currall & Lewis	9,201 6 1		

* Accepted.

WEST HAM.—For the erection of Board-room and offices, The Grove, Stratford, E., for the School Board. Mr. Wm. Jacques, Architect, 2, Fen Court, E.C. Quantities by Messrs. R. L. Curtis & Sons :—

J. P. White	£16,241	W. J. Maddison	£14,347
Nightingale	15,655	Geo. Sharpe	14,232
Battley, Son, & Holness	15,280	Gregar & Son, Stratford*	13,964
Stimpson & Co.	14,700		

* Accepted.

LONDON SCHOOL BOARD TENDER.

ANERLEY.—For an Institution for Deaf children, for the London School Board :—

J. F. Collinson	£46,001	Lathey Brothers	£42,602
Atherton & Dolman	45,894	W. Downs	41,658
D. Charteris	44,929	W. Pattinson & Sons	41,550
J. Grover & Son	43,865	G. E. Wallis & Sons	40,967
B. E. Nightingale	43,684	H. Lovatt	40,943
L. H. & R. Roberts	43,557	S. Hart	40,874
J. & M. Patrick	42,998	Stimpson & Co.	40,737
J. Shillitoe & Son	42,916	Treasure & Son	39,883
E. Lawrance & Sons	42,636	Kirk & Randall*	38,920

* Recommended for acceptance.

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D. & P. (too late: next week).—H. C. (amounts should have been stated).

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Asphalte.—The Seyssel and Metallic Lava Asphalte Company (Mr. H. Glenn), Office, 42, Poultry, E.C.—The best and cheapest materials for damp courses, railway arches, warehouse floors, flat roofs, stables, cow-sheds and milk-rooms, granaries, tun-rooms, and terraces. Asphalte Contractors to the Forth Bridge Co. [ADVT.

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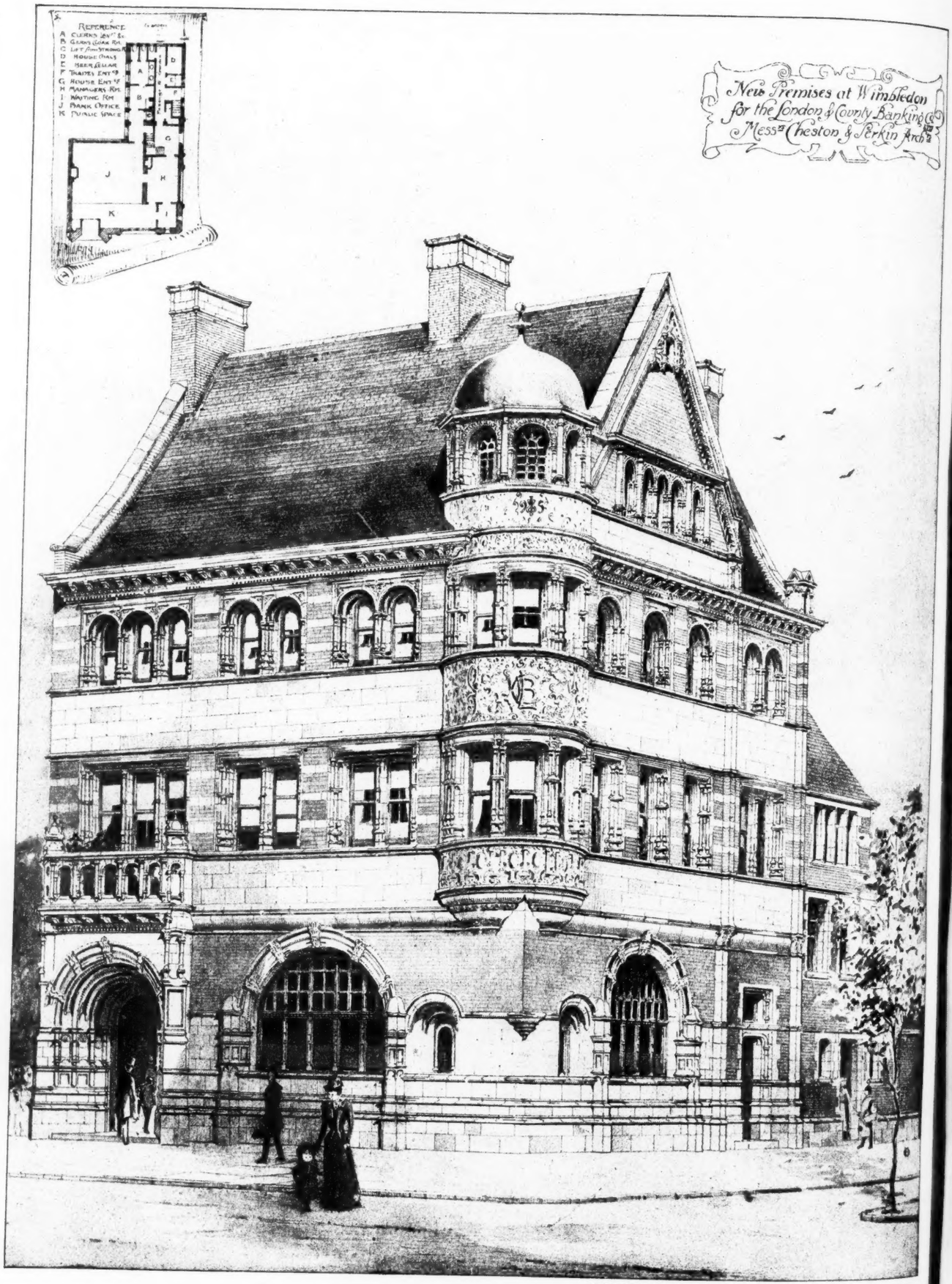
LIVERPOOL:
6 and 8, HATTON GARDEN.
GLASGOW:
47 and 49, ST. ENOCH-SQUARE.



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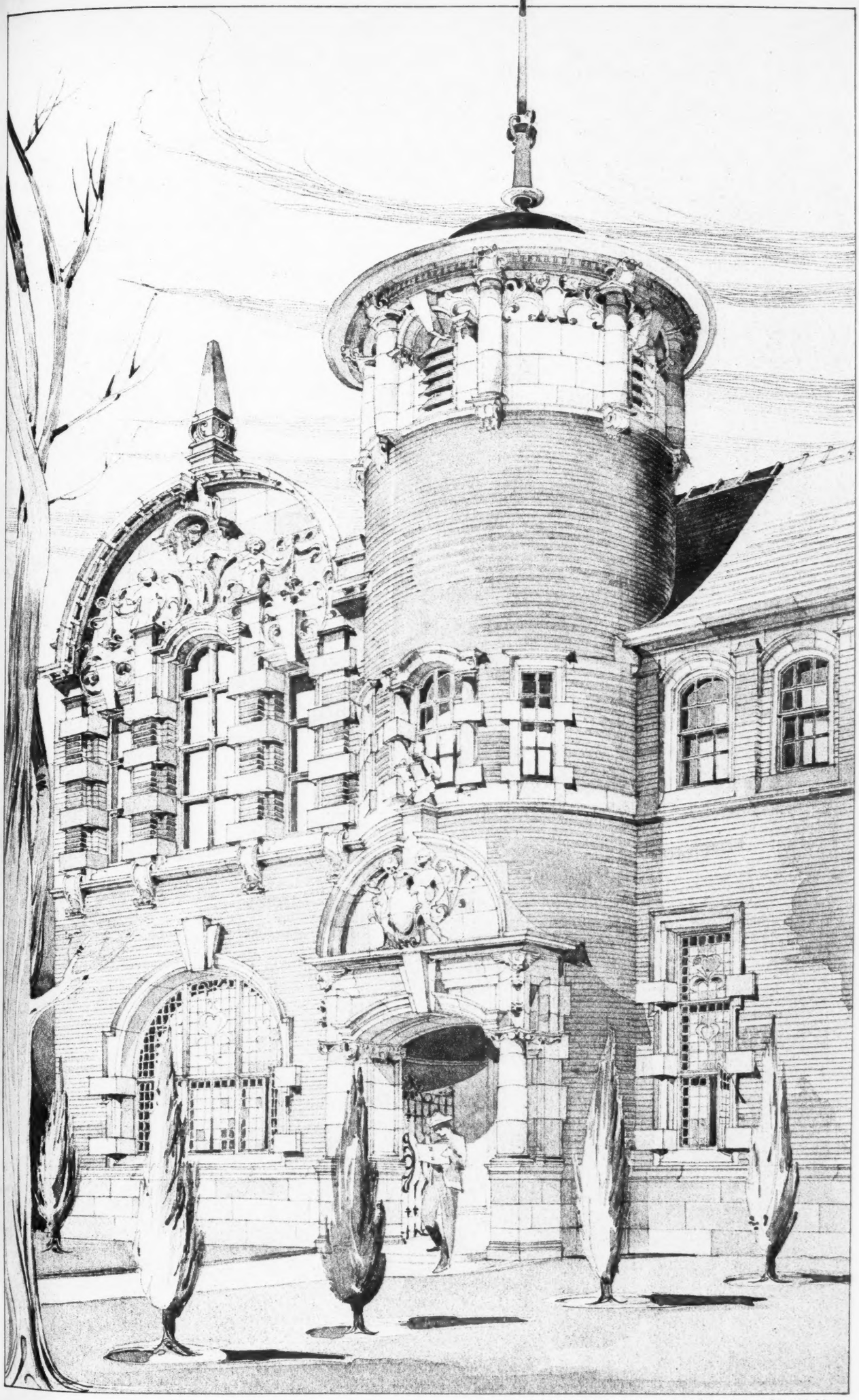

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MESSRS. GIBSON & RUSSELL, ARCHITECTS.

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DESIGN FOR A COUNTRY HOUSE.

(Architectural Association Medal Design)

By Mr. Alfred Cox.

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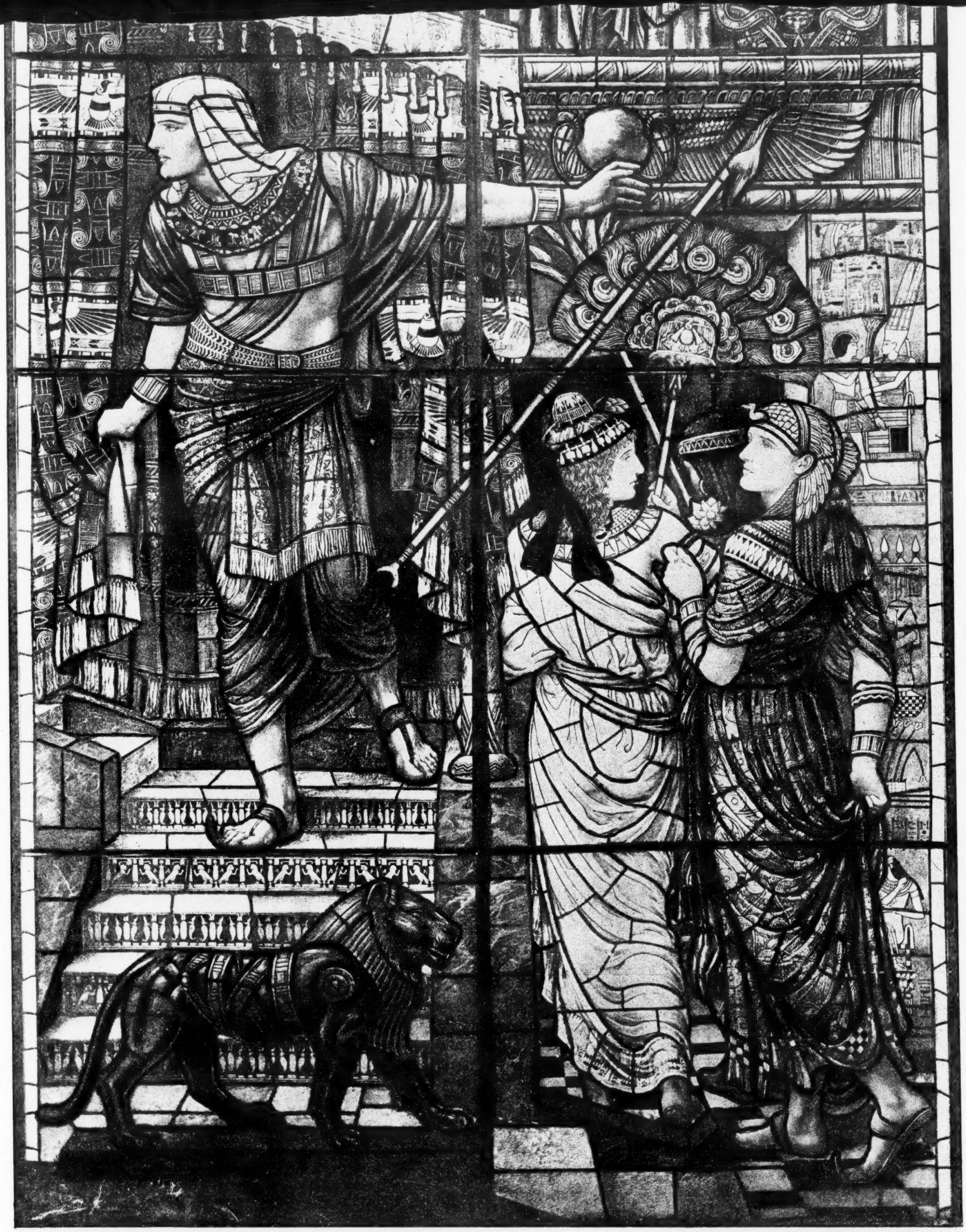
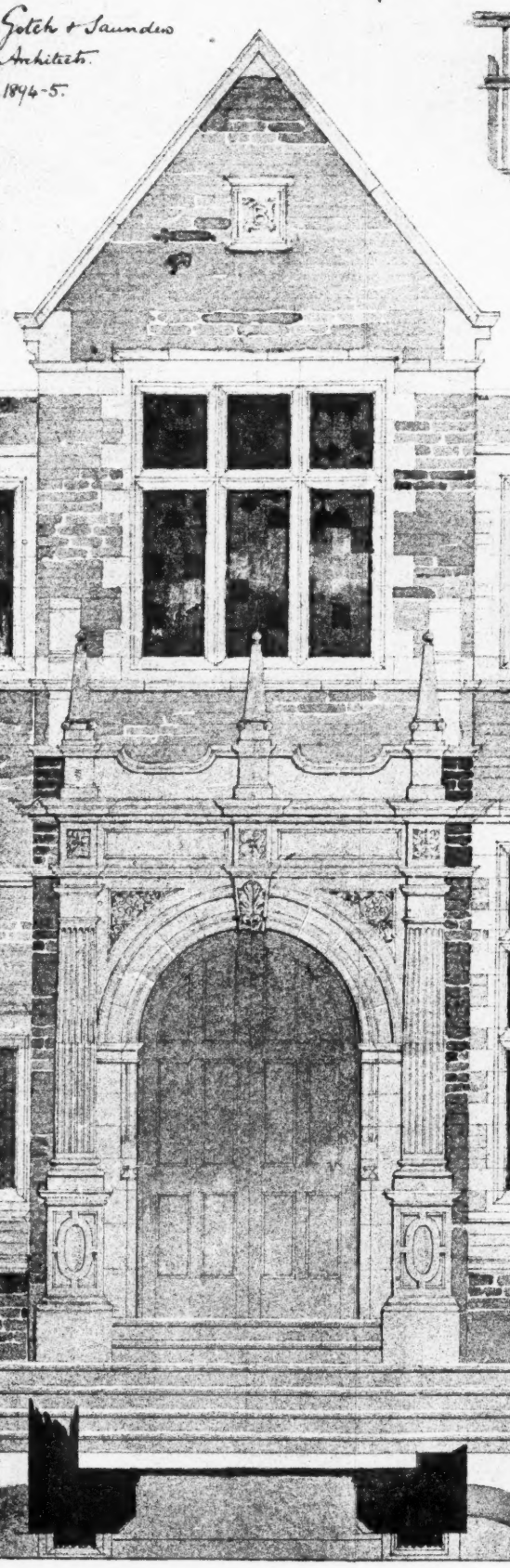


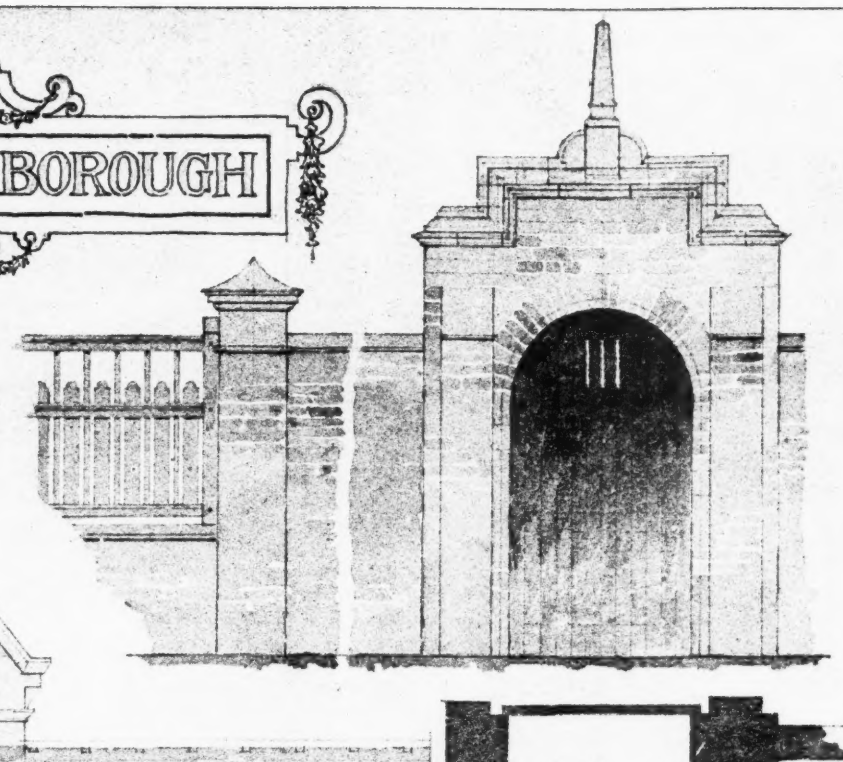
"MOSES LEAVING THE COURT OF PHARAOH": MEMORIAL WINDOW TO GENERAL LEE, IN ST. PAUL'S CATHEDRAL, RICHMOND, VIRGINIA.—DESIGNED BY MR. HENRY HOLIDAY.

HOUSE AT PETERBOROUGH

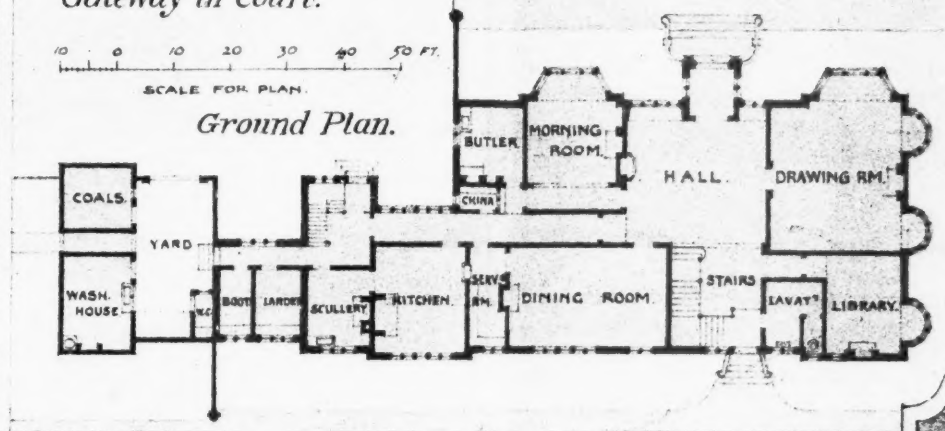
Goteh & Saunders
Architects.
1894-5.



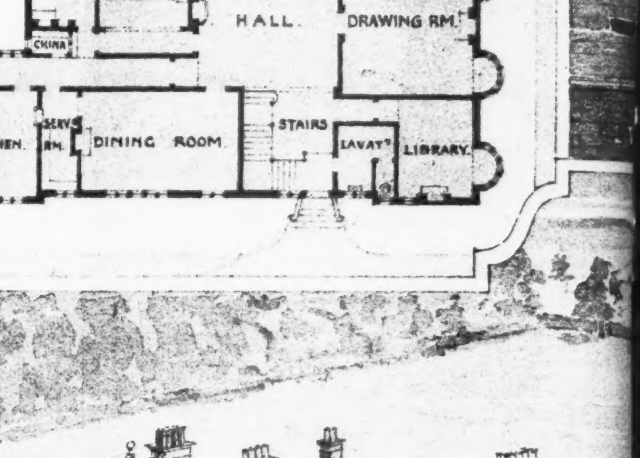
Entrance Porch.



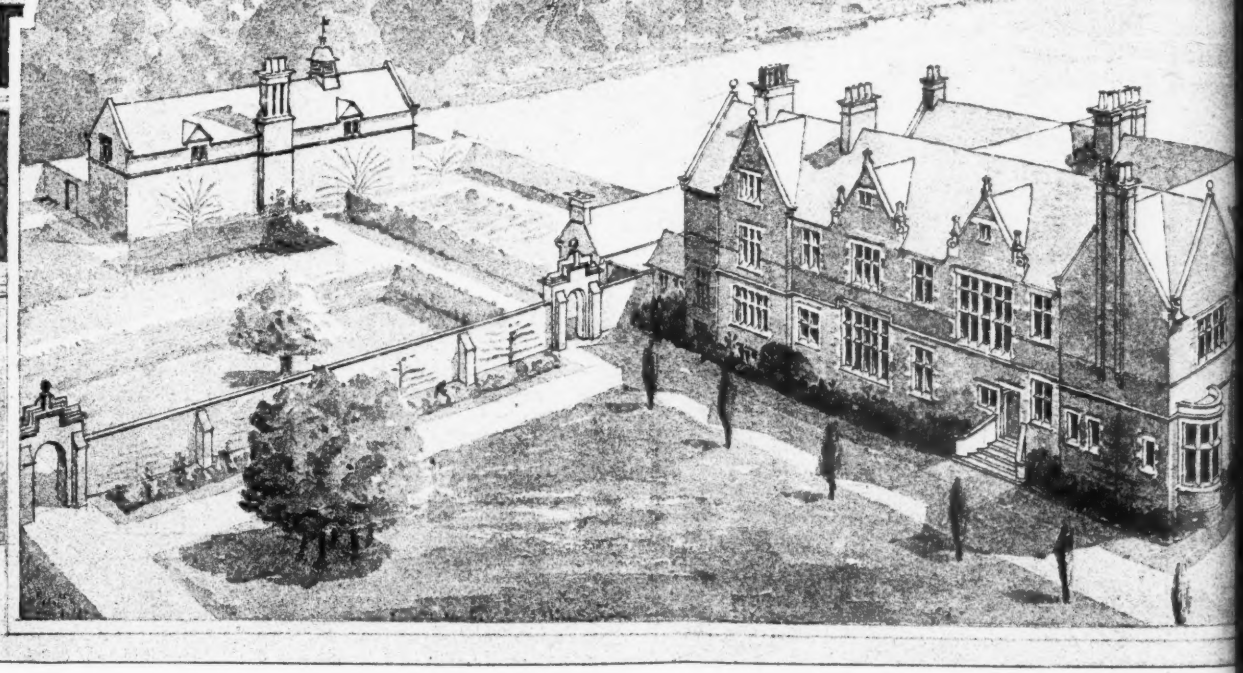
Gateway in Court.

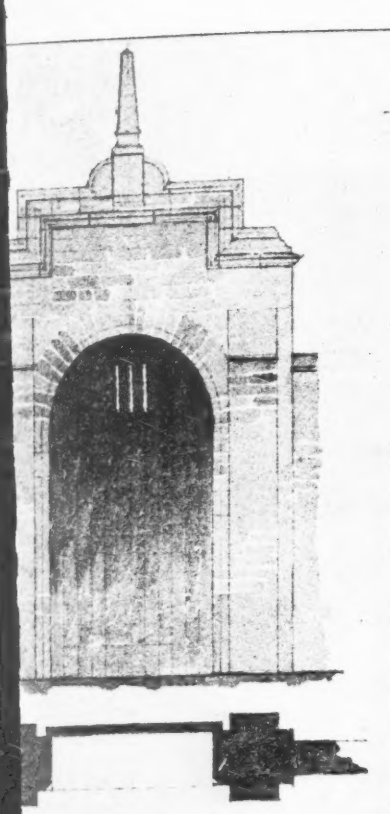


Ground Plan.

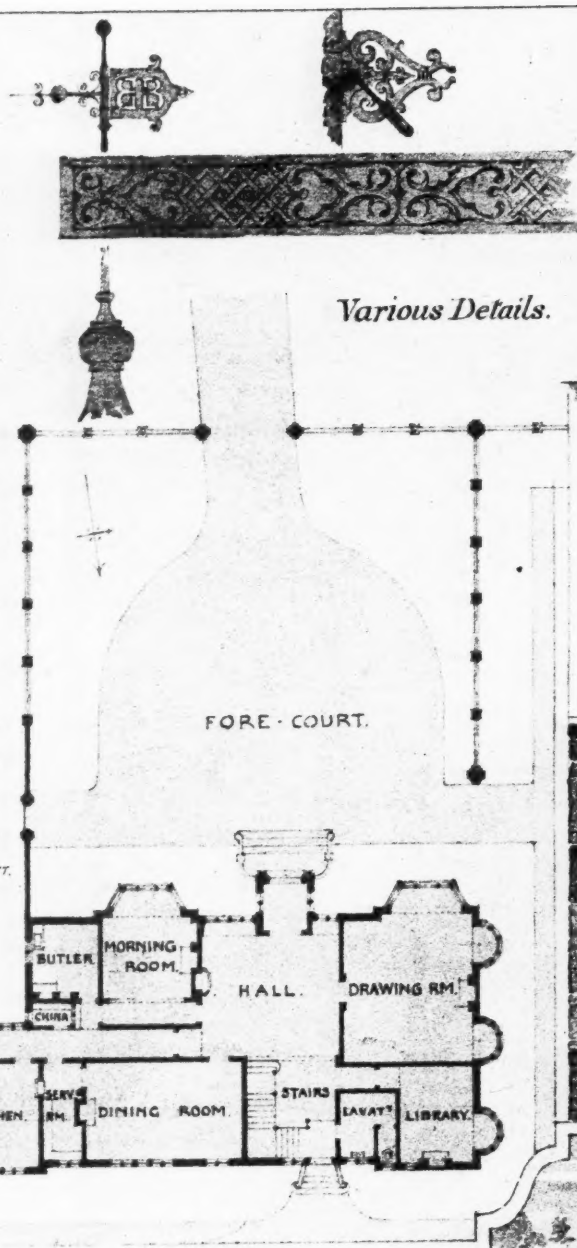


Various Details.





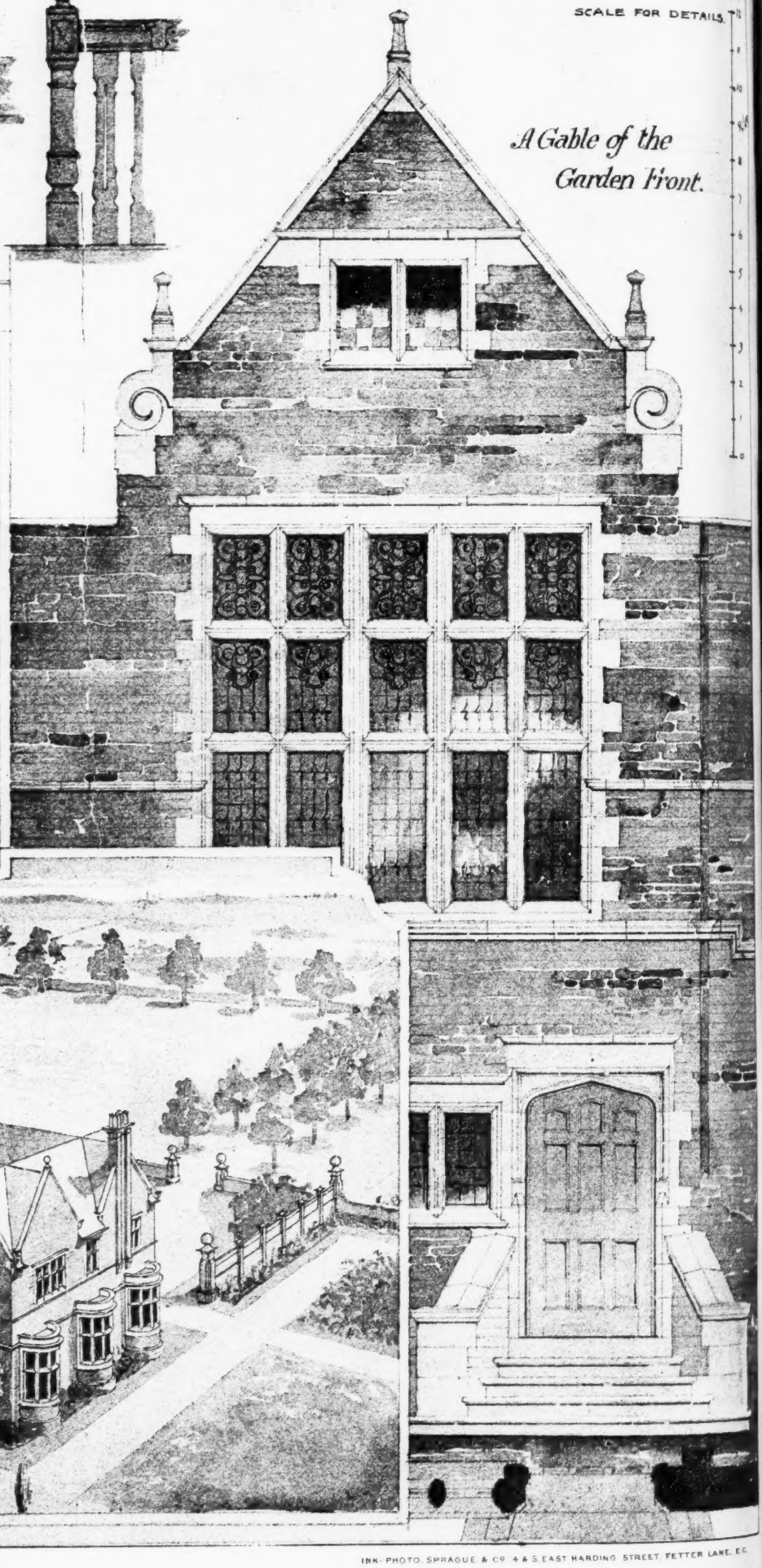
Gateway in Court.



10 0 10 20 30 40 50 FT.
SCALE FOR PLAN.

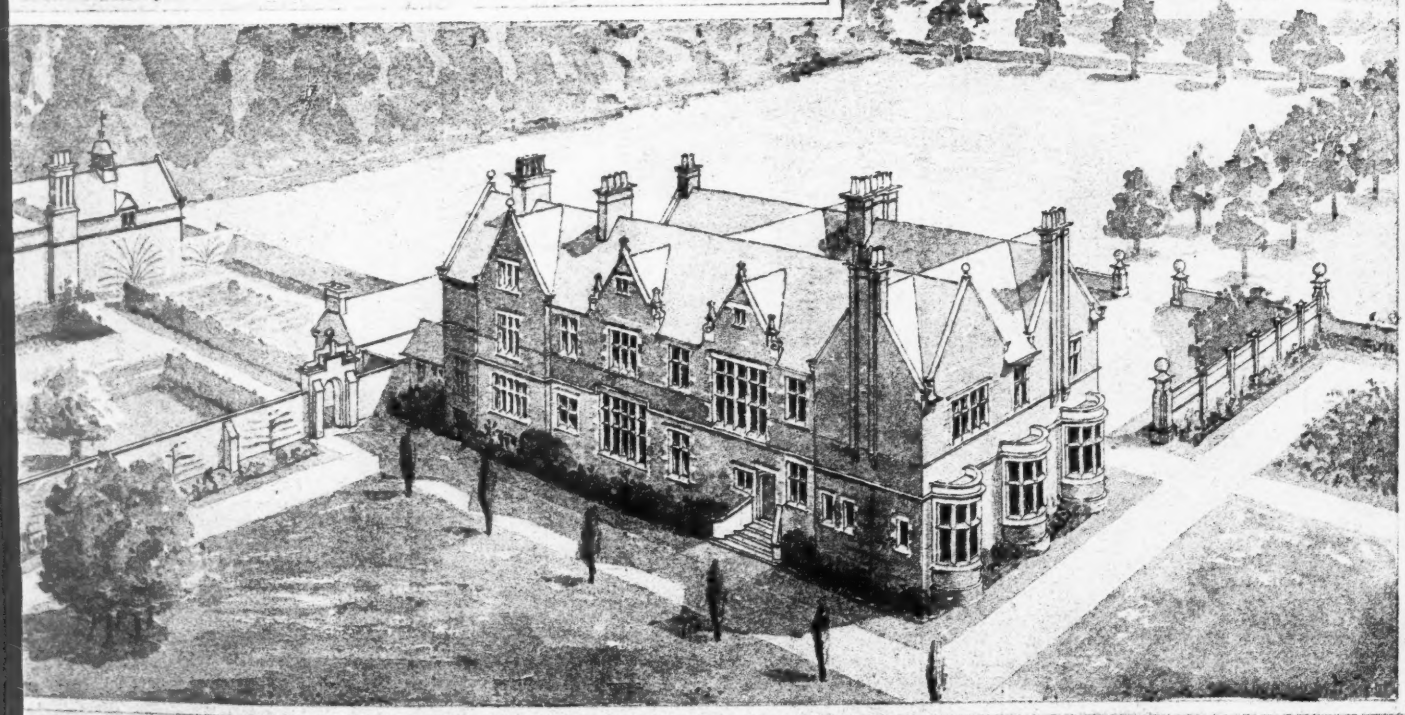
Ground Plan.

Various Details.



SCALE FOR DETAILS.

A Gable of the Garden Front.



INK-PHOTO. SPRAGUE & Co. 4 & 5, EAST HARDING STREET, FETTER LANE, E.C.